



United States
Department of
Agriculture

Soil
Conservation
Service

Portland,
Oregon



Water Supply Outlook for Oregon

as of FEBRUARY 1, 1984

CONTIN



TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, West Technical Service Center, Room 511, 511 N.W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	Room 129, 2221 East Northern Lights Blvd., Anchorage, Alaska 99504
Arizona	Room 3008, Federal Building, 230 N. First Ave., Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th St., Boise, Idaho 83702
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno, Nevada 89505
Oregon	1220 S. W. Third Ave., Portland, Oregon 97204
Utah	4420 Federal Bldg., 125 South State St., Salt Lake City, Utah 84138
Washington	360 U. S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82602

PUBLISHED BY OTHER AGENCIES

Water supply Outlook reports prepared by other agencies include a report for California by the Snow Surveys Branch, California Department of Water Resources, P.O. Box 338, Sacramento, California 95802 --- for British Columbia by the Ministry of the Environment, Water Investigations Branch, Parliament Buildings, Victoria, British Columbia V8V 1X5 --- for Yukon Territory by the Department of Indian and Northern Affairs, Northern Operations Branch, 200 Range Road, Whitehorse, Yukon Territory Y1A 3V1 --- and for Alberta, Saskatchewan, and N.W.T. by the Water Survey of Canada, Inland Waters Branch, 110-12 Avenue S.W., Calgary, Alberta T3C 1A6.



★ GPO 693-033

WATER SUPPLY OUTLOOK FOR OREGON

and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Issued

February 1, 1984

Issued by

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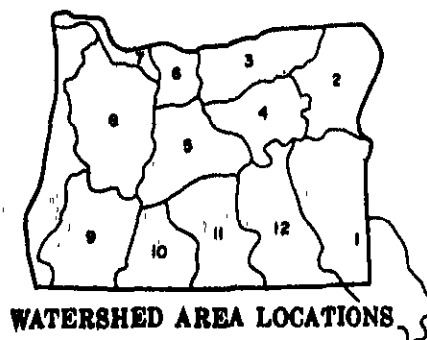
Report prepared by

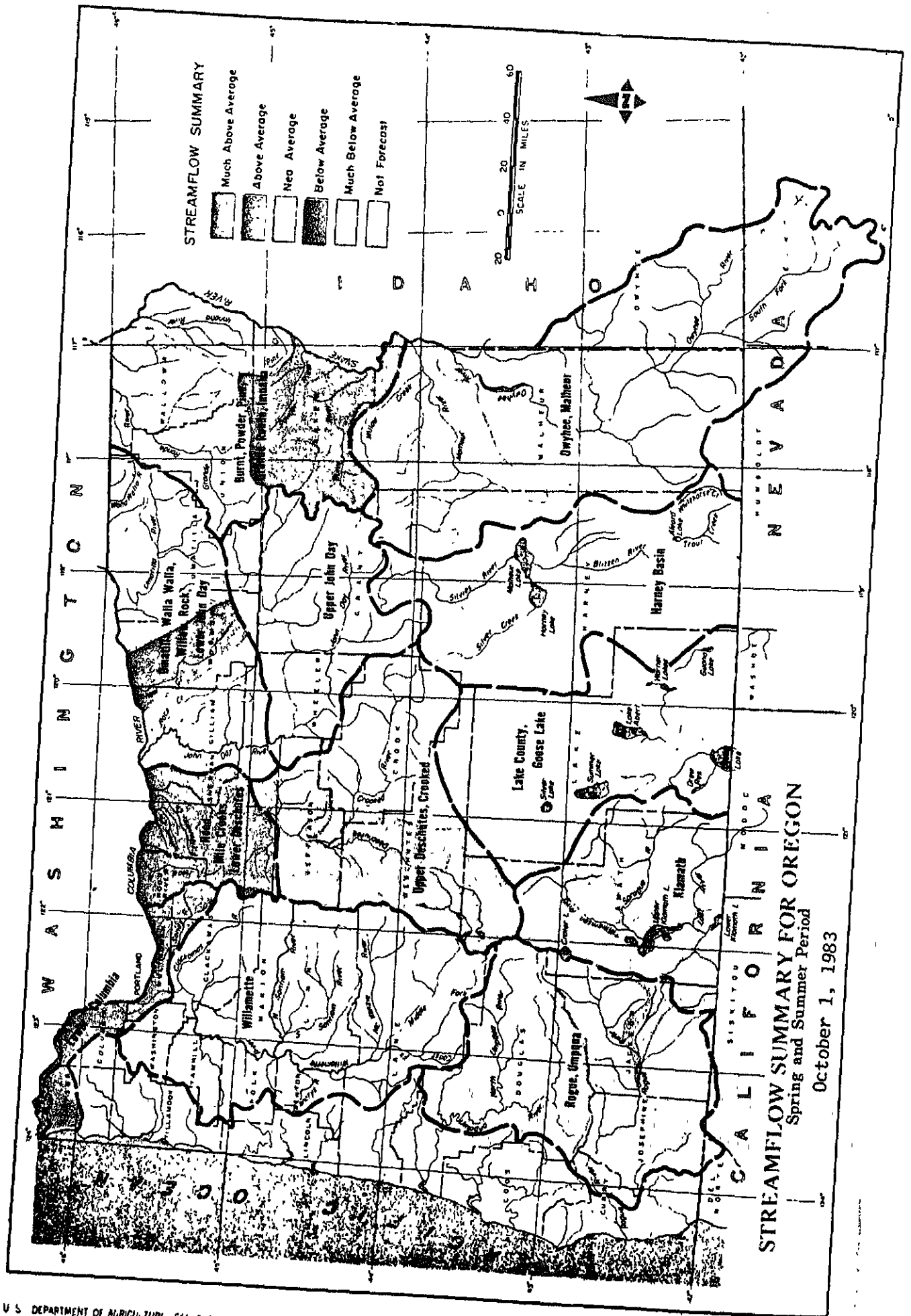
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WATER SUPPLY OUTLOOK AND SUMMARY FOR OREGON

FEBRUARY 1, 1984

* Near to much above average water supplies are forecast for Oregon next *
* spring and summer. The snowpack over most of the state is near or *
* above normal. West of the Cascades it is much below to near normal. *
* Precipitation during January has been very low but remains near normal *
* for the winter season. Reservoir levels remain high and all should *
* fill this year. *

SNOW COVER

Warm temperatures began a premature melting of the snowpack in the Cascades and in northeastern Oregon. This melting, combined with much below precipitation during January, results in a below normal snowpack over 1/3 of the state. West of the Cascades the snowpack ranges from 44 percent of normal in the north to 111 percent in the south. East of the Cascades the snowpack ranges from below to near normal in the north and much above normal in the south.

PRECIPITATION

January precipitation amounts have been very low. The highest precipitation (72 percent of average) occurred in the northeast portion of the state. The lowest values were in Lake County which had 15 percent of normal precipitation. However, the winter precipitation amounts remain near normal except in the southeast quarter of the state where it is above to much above normal.

RESERVOIR STORAGE

Reservoir storage remains very good throughout the state. As of February 1, 27 irrigation reservoirs were reporting storage that is 131 percent of normal for this time of year. This storage is 76 percent of capacity. All reservoirs should fill this year.

STREAMFLOW

Streamflow has been above average for the water year throughout most of Oregon. It should remain near to much above normal throughout the rest of the year.

-continued on next page-

Prospective streamflow as a percent of average on representative Oregon streams is as follows:

STREAM	PERIOD	% OF AVERAGE
Owyhee net Inflow	Feb.-July	213
Grande Ronde @ LaGrande	March-Sept.	99
Umatilla @ Pendleton	March-Sept.	93
Deschutes @ Benham Falls	April-Sept.	108
Willamette Mid. Fork near Oakridge	April-Sept.	95
Rogue @ Raygold	April-Sept.	107
Upper Klamath Lake net Inflow	April-Sept.	116
Silvies near Burns	March-July	141

Malheur Lake in Harney County is expected to continue to rise. The July 1 level is forecast to be 4100.56 feet with a surface of 109,000 acres. The normal surface of this lake on July 1 is 40,000 acres.

These forecasts assume normal weather conditions will occur throughout the forecast period.

The forecasts in this bulletin are a result of coordinated activity between the Soil Conservation Service and the National Weather Service as an effort to provide the best possible service to water users.

This report contains data furnished by the Oregon Department of Water Resources, U.S. Geological Survey, NOAA National Weather Service and other cooperators.

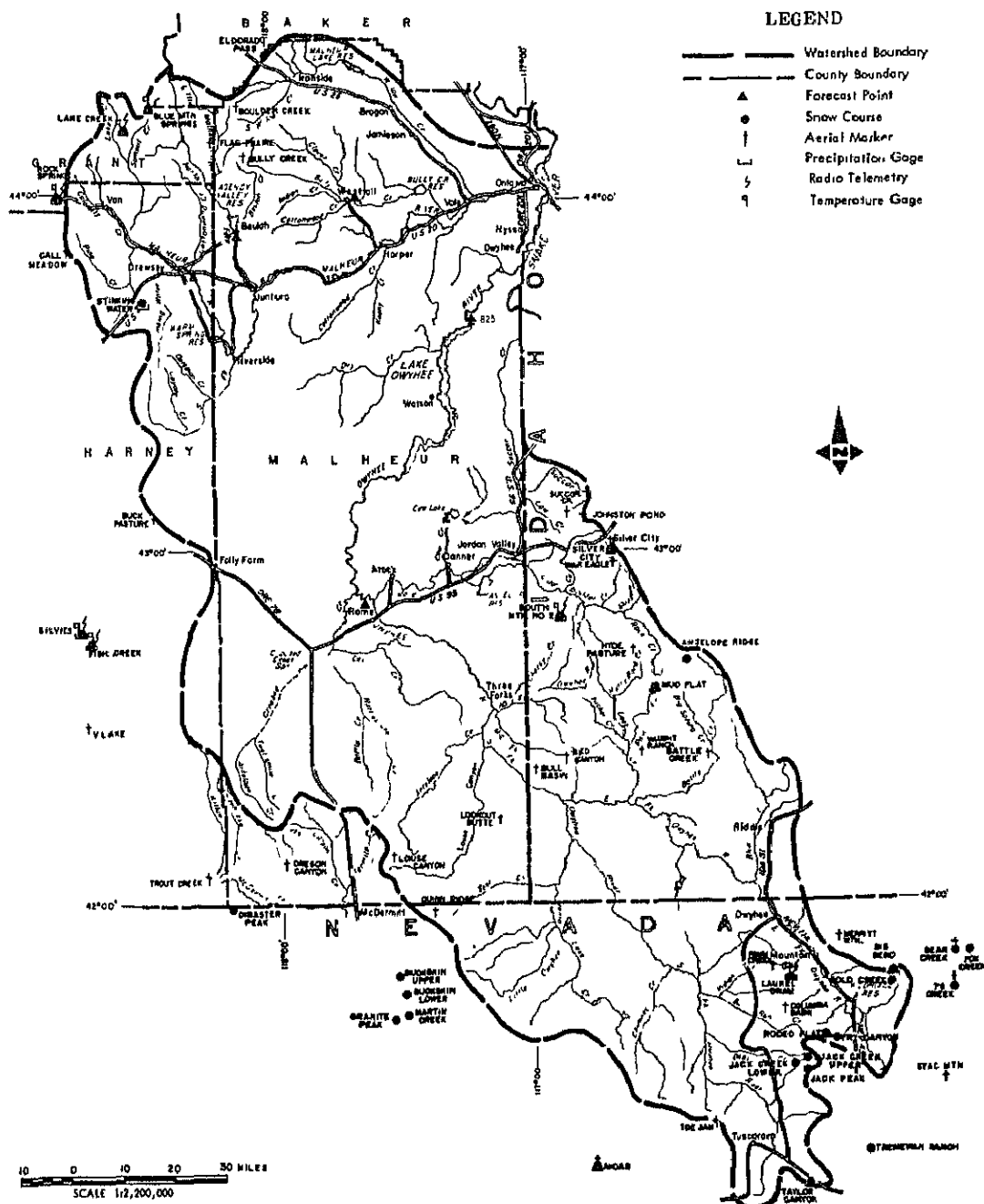
WATER SUPPLY OUTLOOK

OWYHEE, MALHEUR WATERSHEDS

OREGON

GENERAL OUTLOOK

Water supplies are forecast to be excellent this summer. Streamflow should be $1\frac{1}{2}$ times to twice normal. The snowpack is also very good with $1\frac{1}{2}$ to $2\frac{1}{2}$ times normal amounts in the mountains. Precipitation for January was very low, only 35% of normal. However, for the winter season it is 153% of normal. Reservoir storage is much above average for this time of year. Streams will recede 2 to 4 weeks later than normal this summer.



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ^c
Bully Creek at Warm Springs	24	167	March-May		14.4 b
Malheur near Drewsey	150	142	Feb.-July		106
	113	161	April-Sept.		70
Malheur, North Fork at Beulah	118	149	Feb.-July		79
	99	157	April-Sept.		63
Owyhee Reservoir net Inflow	1,193	213	Feb.-July		561
	809	215	April-Sept.		376
Owhee at Rome	1,274	213	Feb.-July		598 b
Succor Creek near Jordan Valley	29	179	Feb.-July		16.2 b

FORECAST DATE OF LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Owyhee near Rome	2000	May 31	May 14
	1000	June 26	May 28
	500	July 26	June 11

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ^c
Beulah Reservoir	60.0	36.4	42.5	24.9
Bully Creek	30.0	15.0	19.8	14.5
Owyhee	715.0	590.2	619.0	444.0
Warm Springs	191.0	128.2	139.2	83.0

SUMMARY OF SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
Jordan Creek	1	110	172
Malheur River	4	119	152
Owyhee River	4	142	240

(a) Estimated. (b) 1961-80 adjusted average. (c) 1961-80 20 year average. (d) Corrected to natural flow. (e) Not scheduled.

GENERAL OUTLOOK

WASHINGTON

LEGEND

- Watershed Boundary
- County Boundary
- ▲ Forecast Point
- Snow Course
- ↑ Aerial Marker
- ⌈ Precipitation Gage
- ⚡ Radio Telemetry
- ⌈ Temperature Gage

0 10 20 30 MILES

SCALE 1:1,500,000

STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR		FORECAST PERIOD	PAST RECORD	
	FORECAST			THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ^c
Anthony Creek blw. North Fork nr. North Powder	16.1	93	Feb.-July		17.3 b
Bear near Wallowa	69	105	April-Sept.		66
Big Creek blw. Burn Creek near Medical Spring	13.6	109	Feb.-July		12.5 b
Burnt near Hereford	59	123	Feb.-July		48
	47	138	April-Sept.		34
Catherine near Union	66	103	April-Sept.		64
Deer Creek above Phillips Res. near Sumpter	23	125	Feb.-July		18.4 b
Eagle Creek above Skull Creek	182	108	April-July		169
	198	108	April-Sept.		184
Grande Ronde at La Grande	196	99	March-Sept.		198
	161	99	April-Sept.		162
Hurricane near Joseph	43	93	April-Sept.		46 b
Imnaha at Imnaha	298	99	April-Sept.		301
Lostine near Lostine	111	90	April-Sept.		123
Pine Creek near Oxbow	211	90	Feb.-July		234 b
Powder near Sumpter	64	114	April-July		56
	66	116	April-Sept.		57
Wallowa, East Fork near Joseph	11.9	97	Feb.-Sept.		12.3
	10.5	95	April-Sept.		11.1
Wallowa at Joseph	61	91	May-July		67
Wolf Creek Reservoir net Inflow	13.6	101	March-June		13.4 b

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ^c
Phillips Lake	73.5	51.1	58.6	29.1
Thief Valley	17.4	17.8	17.8	15.6
Unity	25.2	15.6	16.3	11.9
Wallowa Lake	37.5	30.4	26.3	20.5
Wolf Creek	10.4	2.9	4.9	--

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
Burnt River	4	104	119
Grande Ronde River above La Grande	3	119	102
Powder River	4	95	106
Wallowa, Imnaha, Catherine Creek	5	86	94
		--	--

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Eagle Cr.abv.Skull Cr.	225	July 25	July 25
	160	Aug. 7	Aug. 5
Catherine Creek near Union	48	Aug. 1	Avg. value 49
	100	July 8	July 9
	50	July 28	July 28
Powder near Sumpter	100	June 26	June 25
	20	July 25	July 22
Deer Cr. abv. Phillips Res. near Sumpter	40	June 17	June 17
	10	July 8	July 6

(a) Estimated. (b) 1961-80 adjusted average. (c) 1961-80, 20 year average. (d) Corrected to natural flow. (e) Not scheduled

Water supplies should be below to near average this summer. Streamflow forecasts range from 75% on Rhea Creek and 80% on Willow Creek to 106% on Rock Creek. The snowpack is below average; 77% on the Walla Walla, 88% on McKay and 93% on the Umatilla River. Precipitation is below average. For January it was 39% of normal and for the winter season it is 88% of normal. Cold Springs reservoir is only 60% of normal for February 1 and McKay is 156% of normal. The Umatilla River should recede about two weeks earlier than normal this summer.



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR		FORECAST PERIOD	PAST RECORD	
	FORECAST			THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average
Butter Creek near Pine City	9.8	84	March-July		11.6
Couse Creek near Milton Freewater	6.5	94	Feb.-July		6.9 b
McKay near Pilot Rock	21	88	April-Sept.		24
Pine Creek near Weston	5.3	95	Feb.-July		5.6 b
Rhea Creek near Heppner	7.0	75	Feb.-July		9.3
Rock Creek above Cayuse Canyon near Condon	21	106	Feb.-July		19.8 b
Umatilla near Gibbon	97	98	March-Sept.		99
	76	99	April-Sept.		77
Umatilla at Pendleton	189	93	March-Sept.		204
	135	92	April-Sept.		147
Walla Walla, South Fork near Milton	77	96	March-Sept.		80
	65	97	April-Sept.		67
Willow Creek at Heppner	7.5	80	Feb.-July		9.4

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Umatilla at Pendleton	550	May 1	May 17
So. Fork Walla Walla	200	June 3	June 9
	103	Aug.-Sept. Min. flow	Avg. value 105

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average
Cold Springs	50.0	16.6	32.3	28.2
McKay	73.8	49.6	49.4	31.8

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average
McKay Creek	3	97	88
Umatilla River	2	98	93
Walla Walla River	1	85	77

(a) Estimated. (b) 1961-80 adjusted average. (c) 1961-80, 20 year average. (d) Corrected to natural flow. (e) Not scheduled

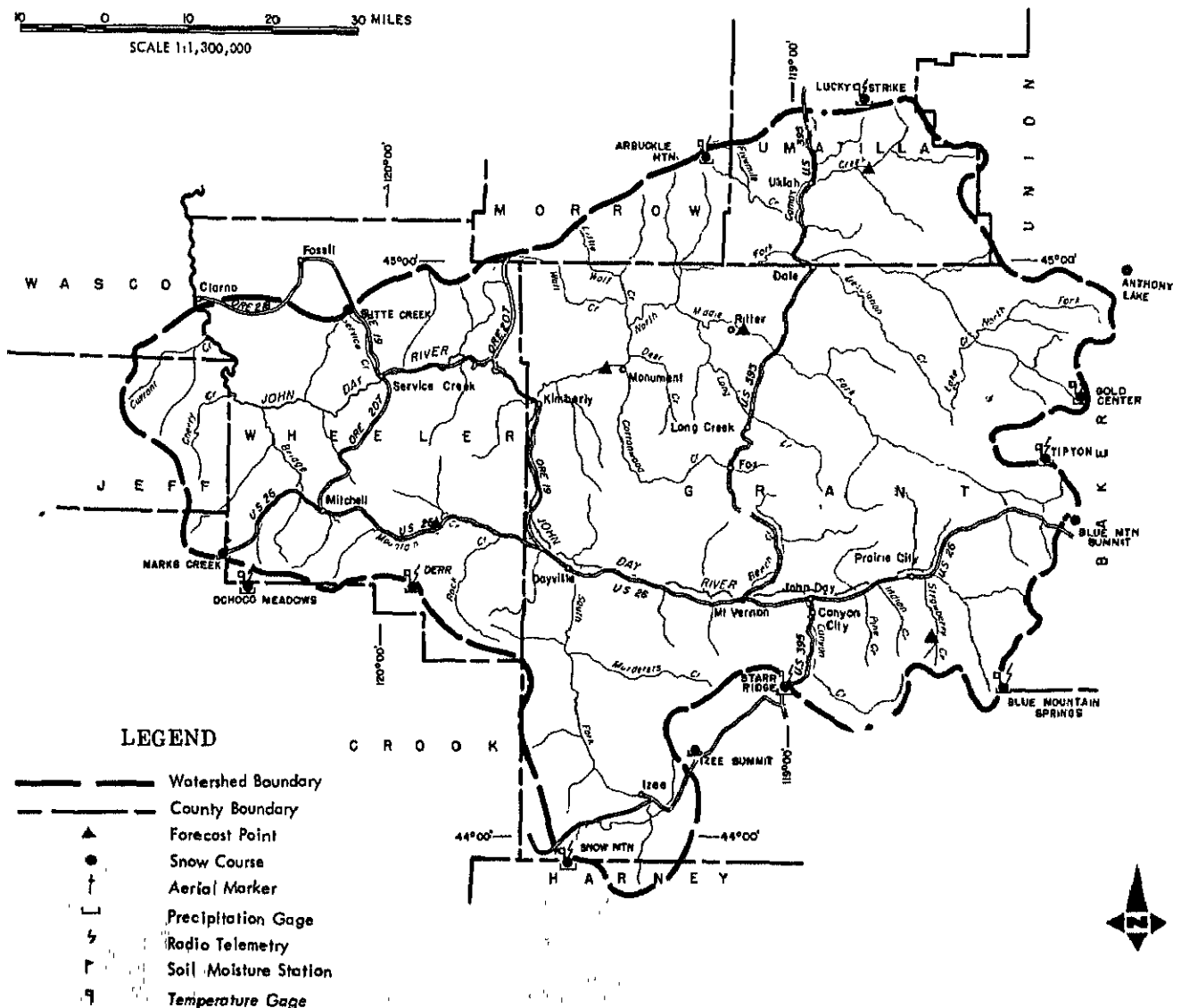
WATER SUPPLY OUTLOOK

UPPER JOHN DAY WATERSHEDS

OREGON

GENERAL OUTLOOK

Water supplies will be near normal this summer. Streamflow ranges from 97% on Camas Creek to 109% on Strawberry Creek. The mountain snowpack is above average with 112% on the North Fork of the John Day. January's precipitation was only 26% of average and it has been 90% for the winter season.



STREAMFLOW FORECASTS

STREAMFLOW FORECASTS		THIS YEAR		PAST RECORD	
BASIN, STREAM and/or FORECAST POINT	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average
Camas Creek near Ukiah	42	98	March-July		43
	33	97	April-Sept.		34
John Day, Middle Fork at Ritter	166	125	March-July		133
	140	125	April-Sept.		112
John Day, North Fork at Monument	684	104	March-July		658
	571	104	April-Sept.		549
Mountain Creek near Mitchell	4.9	96	Feb.-July		5.
Strawberry near Prairie City	8.2	109	March-July		7.
	8.5	109	April-Sept.		7.

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
John Day at Service	231	Aug. 1	Avg. value 212

SUMMARY of SNOW MEASUREMENTS (COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT	
		Last Year	Average
John Day, North Fork	7	98	1
John Day above Dayville	5	124	1

(a) Estimated. (b) 1961-80 adjusted average. (c) 1961-80, 20 year average. (d) Corrected to natural flow. (e) Not scheduled.

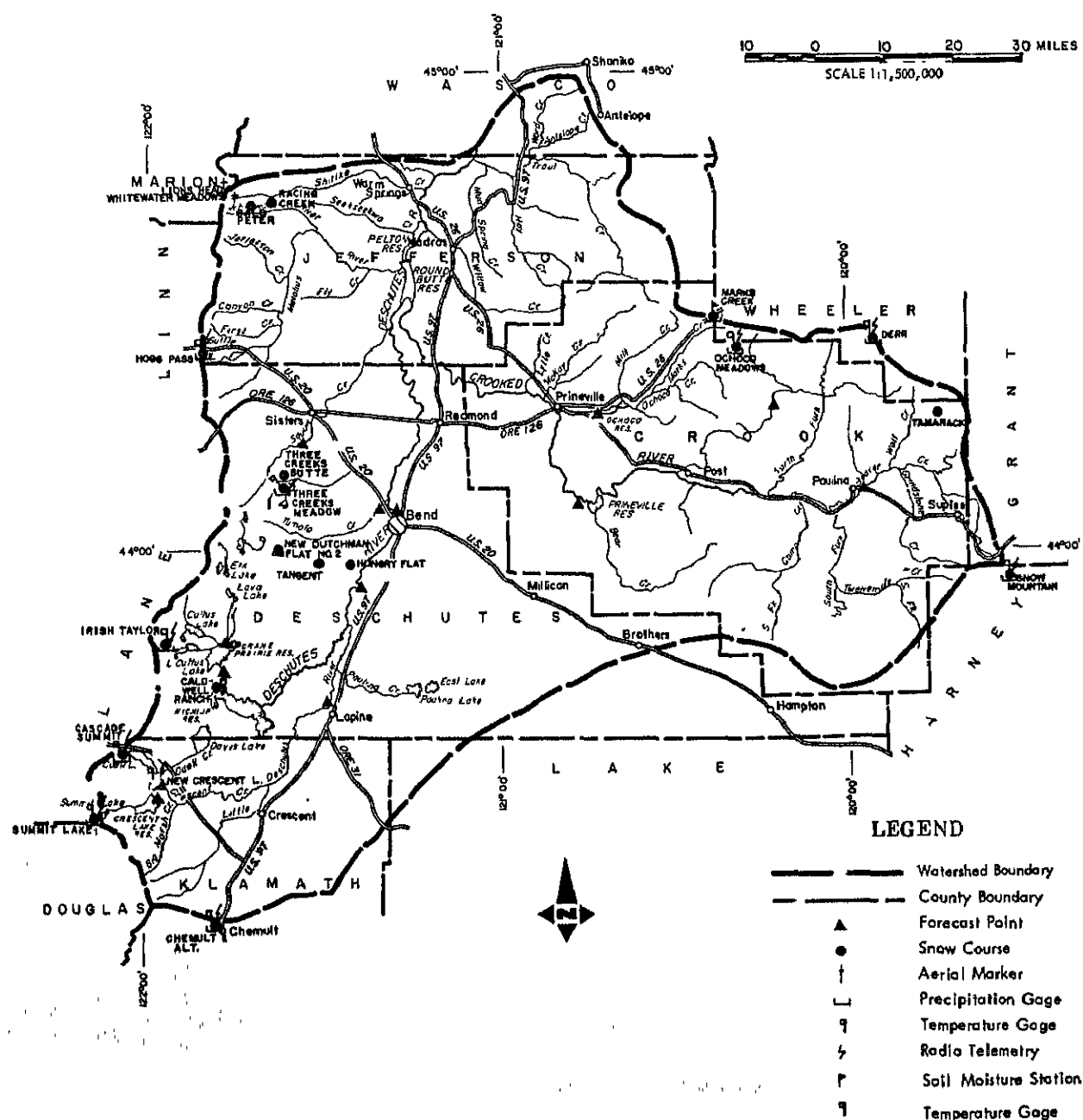
WATER SUPPLY OUTLOOK

UPPER DESCHUTES, CROOKED WATERSHEDS

OREGON

GENERAL OUTLOOK

Above average water supplies are expected this spring and summer. Mountain snowpack is near normal in the Deschutes basin and much above normal in the Crooked and Ochoco basins. January precipitation was only 30% of normal, but for the winter season it is 119 percent. Most reservoirs are currently storing above average water supplies and all should fill this year. Streamflow is forecast to be near normal on the Deschutes and much above normal on the Crooked and Ochoco rivers.



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR		PAST RECORD		
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average C
Beaver Creek near Paulina	63	154	Feb.-July		41 b
	27	161	April-Sept.		16.8 b
Crane Prairie Reservoir total Inflow	128	113	April-Sept.		113
Crescent at Crescent Lake	22	118	March-July		18.7
	24	121	April-Sept.		19.9
Crooked River near Prineville	272	154	Feb.-July		177
	161	171	April-Sept.		94
Crooked R.,Nor. Fk. blw. Lookout Cr. nr Paulina	18.0	121	Feb.-July		14.9 b
Deschutes at Benham Falls	388	110	April-July		353
	582	108	April-Sept.		540
Deschutes below Snow Creek	80	113	Feb.-Sept.		71
	66	112	April-Sept.		59
Deschutes, Little near La Pine	118	124	Feb.-Sept.		95
	84	124	April-July		68
Ochoco Reservoir net Inflow	44	138	Feb.-July		32 b
	28	158	April-Sept.		17.7 b
Squaw near Sisters	52	108	April-Sept.		48
Tumalo near Bend	48	109	April-Sept.		44

FORECAST DATE OF LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Crane Prairie net Inflow	394	Peak	
	243	Oct. 31	
	Peak	May 27	
Crooked R. near Post	100	June 9	June 1
Little Deschutes Near La Pine	400	June 6	June 7
	200	July 10	July 8
Squaw Cr. nr. Sisters	100	Aug. 25	Aug. 16
Tumalo Cr. near Bend	235	June 27	June 23
	207	June 28	June 25
	150	July 9	July 5
	71	Aug. 6	Aug. 7

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average C
Crane Prairie	55.3	50.6	42.6	42.6
Crescent Lake	86.9	83.1	63.8	50.5
Ochoco	47.5	29.9	31.6	20.5
Prineville	153.0	93.3	94.5	99.5
Wickiup	200.0	188.1	194.1	153.0

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average C
Crooked, Ochoco	4	117	183
Deschutes abv. Wickiup	3	102	96
Little Deschutes	3	102	106
Tumalo & Squaw Crs.	2	98	100

(a) Estimated, (b) 1961-80 adjusted average. (c) 1961-80, 20 year average. (d) Corrected to natural flow. (e) Not scheduled.

Water supplies are expected to be below normal this season. The snowpack which is below normal, is 79% of normal on the Hood River drainage and 82% on the White River drainage. January precipitation which was one of the best in the state, was still only 63% of normal. Winter precipitation is the lowest in the state at 82% of its normal February 1 amount. Streamflow is forecast to be 90% of normal for Hood River and 81% for the White River.



STREAMFLOW FORECASTS

BASIN STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ^c
Hood River at Tucker Bridge near Hood River	207	87	April-July		238
	256	90	April-Sept.		285
Hood River, West Fork near Dee	116	93	April-July		125
	138	95	April-Sept.		146
White below Tygh Valley	84	79	April-July		112
	103	81	April-Sept.		127

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Clear Branch Inflow	*36	July 15-31	**39
*Average cfs forecast to flow for this two-week period.			
**Average cfs for period of record.			
White below Tygh Valley	200	June 26	July 3
	131	Aug. 1	Avg. value 145

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average
Clear Lake (Wasco)	11.9	3.4	4.9	4.

SUMMARY of SNOW MEASUREMENTS (COMPARISON WITH PREVIOUS YEARS)

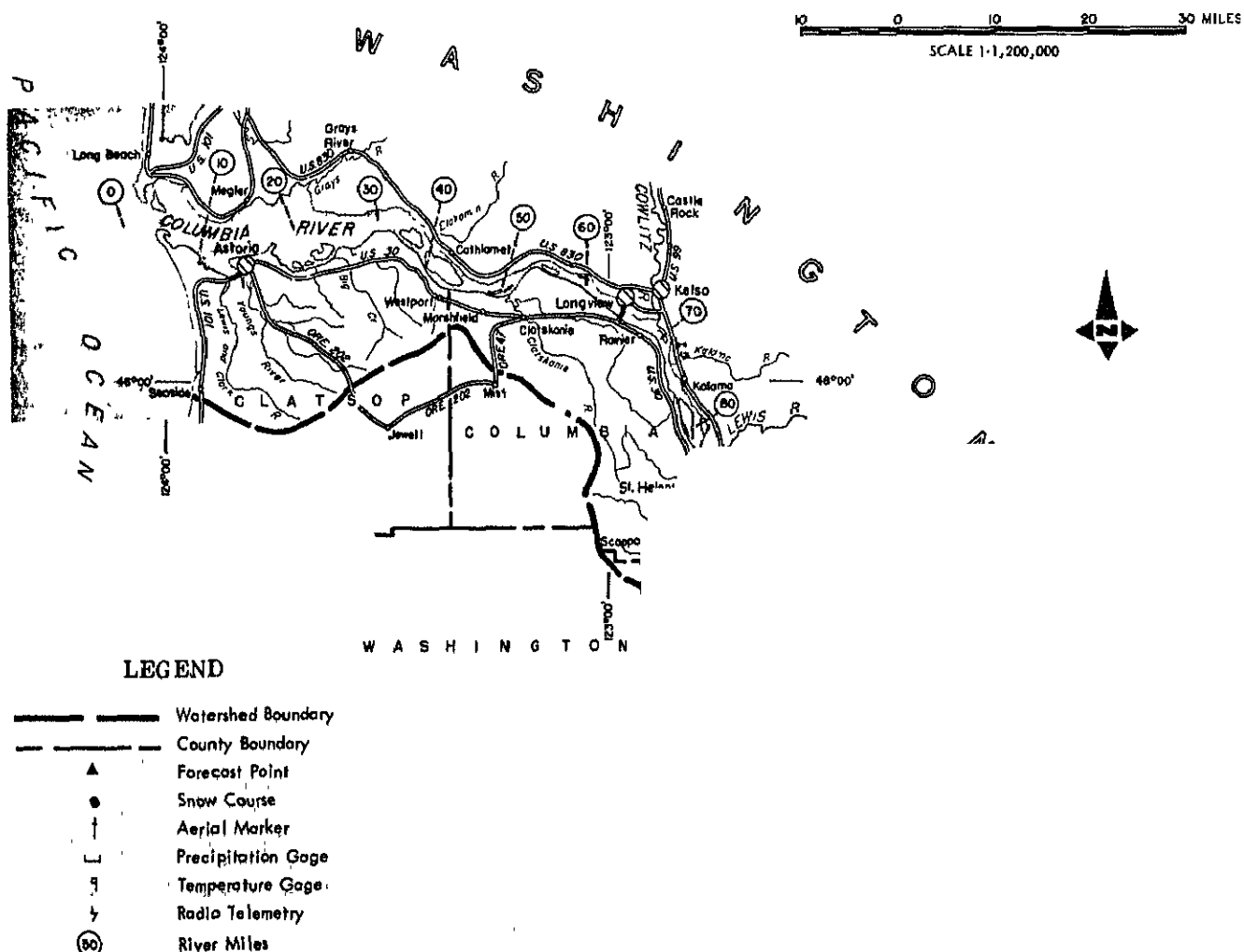
RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
Hood River	2	106	79
White River	1	103	82

(a) Estimated. (b) 1961-80 adjusted average. (c) 1961-80, 20 year average. (d) Corrected to natural flow. (e) Not scheduled.

WATER SUPPLY OUTLOOK LOWER COLUMBIA WATERSHEDS OREGON

GENERAL OUTLOOK

The lower Columbia River will have near average water supplies this spring and summer. The snowpack ranges from much below average in northern Idaho and Montana to above average in the Snake River watershed. Washington and Canada generally have an average snowpack. In Oregon the snowpack is below average in the north and progresses to much above average in the south. January precipitation was only 50% of average over most of the Columbia basin except in Canada where it was 80% of average. Streamflow should be 94% of average along the lower Columbia this spring and summer. Streamflow for the Sandy River is forecast to be 82% of average.



SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average
Sandy River	1	103	82

STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average
Columbia at The Dalles	80,700	94	April-July		86,080
	94,500	94	April-Sept.		100,800
Sandy River near Marmot	265	81	April-July		327
	314	82	April-Sept.		381

HISTORICAL DATA (Columbia River at The Dalles)

YEAR	STREAMFLOW ^a (1,000 A F)			REGULATED PEAK (1,000 cfs)	DATE
	APR - SEPT	APR - JUNE	MAY - JUNE		
1963	87,860	58,499	47,812	437	June 18
1964	110,422	73,512	63,670	662	June 18
1965	114,222	80,098	62,467	520	June 9
1966	87,386	58,250	45,962	396	June 12
1967	109,319	74,378	66,452	622	June 10
1968	89,102	55,593	47,994	404	June 13
1969	112,377	85,742	63,899	515	May 15
1970	88,243	62,993	55,227	425	May 28
1971	126,898	91,781	76,453	557	May 13
1972	135,500	97,041	81,451	619	June 20
1973	65,549	43,765	36,565	221	December 5
1974	139,501	99,035	78,946	588	June 20
1975	108,906	73,018	62,861	422	May 17
1976	122,771	79,084	62,554	418	May 14
1977	54,108	35,505	28,394	213	January 25
1963-77 Avg.	103,478	71,220	58,714	468	

LOWER COLUMBIA RIVER FLOOD STAGES (with 9.5' tide at Astoria)

VANCOUVER GAGE (Weather Bu)	FLOW AT THE DALLES (1,000 cfs)	DRAINAGE DISTRICT PUMPHOUSE						
		SANDY	SAUVIE ISL.	SCAPPOOSE	DEER ISL.	RAINIER	BEAVER	WOODSON
		118.9	96.0	91.0	77.0	62.0	52.0	47.0
		RIVER MILES						
35 (1894)	1210	41.2	34.2	33.3	28.5	21.9	17.5	15.5
34	1160	40.5	33.5	32.5	27.7	21.2	17.0	15.0
33	1100	39.6	32.4	31.4	26.7	20.2	16.1	14.3
32 (1972)	1050	38.9	31.5	30.5	25.7	19.5	15.4	13.7
31 (1948)	1000	38.0	30.7	29.5	25.1	18.8	14.7	13.0
30	943	36.6	29.5	28.5	24.3	18.1	14.0	12.4
29	897	35.5	28.5	27.7	23.7	17.5	13.4	11.8
28	853	34.3	27.5	26.7	22.8	17.0	13.0	11.4
27 (1956)	811	33.0	26.5	25.6	21.8	16.2	12.5	11.0
26 (1950)	771	32.1	25.5	24.6	20.9	15.5	12.2	10.7
25	733	30.7	24.2	23.2	19.7	14.6	11.7	10.3
24	697	29.7	23.0	22.2	19.0	14.1	11.4	10.2
23	662	29.0	22.3	21.4	18.4	13.6	11.2	10.0
22	628	28.1	21.4	20.3	17.2	13.0	10.9	9.7
21	595	27.2	20.7	19.5	16.4	12.6	10.6	9.6
20 (1954)	564	26.2	19.8	18.6	15.5	12.1	10.2	9.4
19	534	25.5	19.2	18.0	15.0	11.8	10.0	9.3
18	501	24.4	18.3	17.2	14.3	11.4	9.8	9.1
17	479	23.4	17.4	16.4	13.7	11.0	9.6	8.9
16	452	22.4	16.5	15.5	13.0	10.5	9.3	8.7

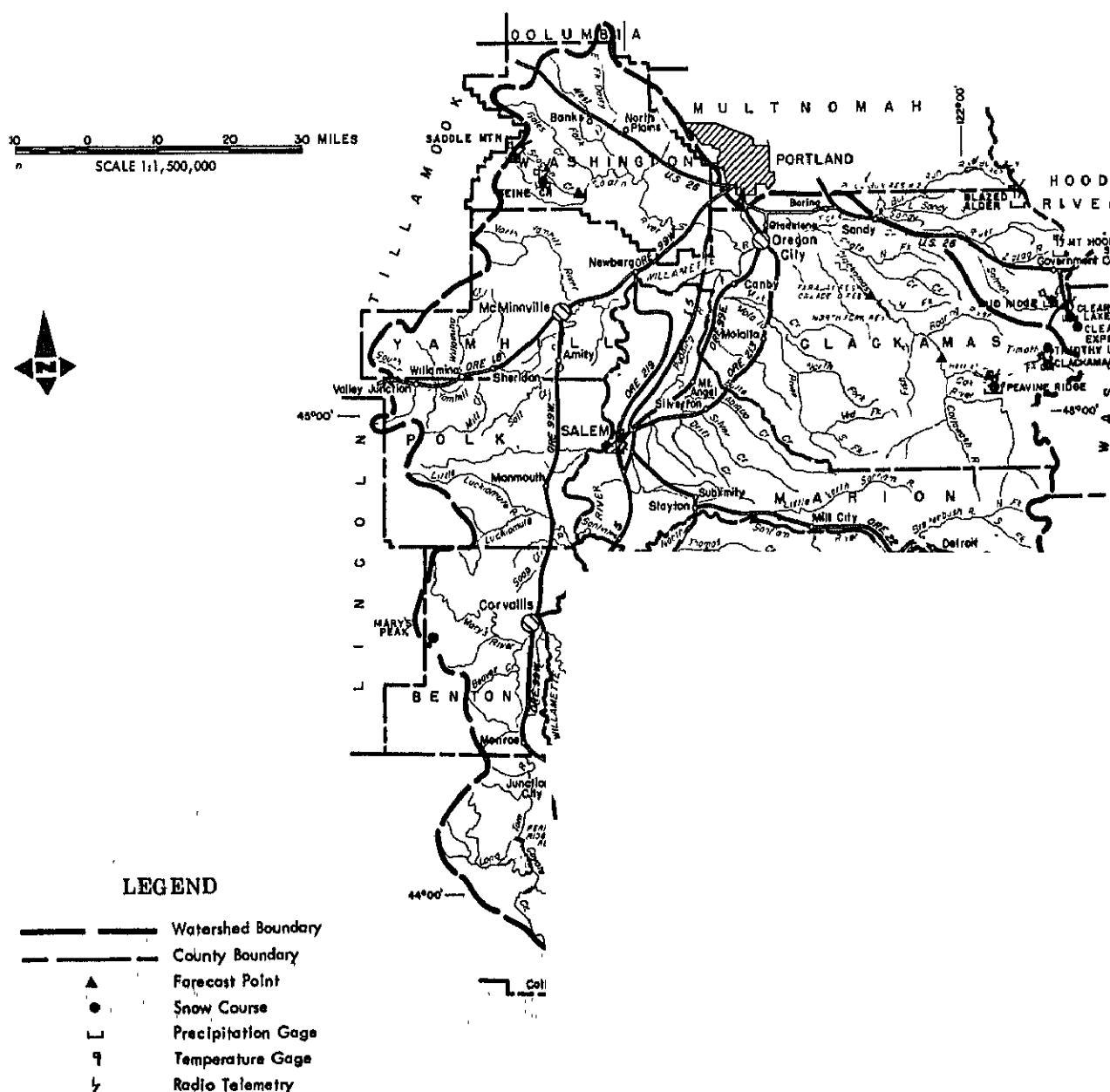
WATER SUPPLY OUTLOOK

WILLAMETTE WATERSHEDS

OREGON

GENERAL OUTLOOK

Near average winter supplies are expected in all the Willamette watersheds this spring and summer. January's warm temperatures caused a premature snowmelt and is reflected in the snowpack averages. They range from a low of 44% in the Clackamas drainage to 92% in the Middle Fork of the Willamette drainage. The precipitation was only 41% of normal during January and 87% for the winter season. Much of the spring and summer streamflow results from spring precipitation so the streamflow forecast ranges from 90 to 103 percent of average.



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average C
Clackamas at Estacada	557	96	April-July		580
	708	96	April-Sept.		736
Clackamas above Three Lynx	451	91	April-July		495
	542	92	April-Sept.		587
McKenzie at McKenzie Bridge	421	96	April-July		440
	562	96	April-Sept.		585
McKenzie near Vida	1,023	103	April-July		994
	1,255	103	April-Sept.		1,223
McKenzie, South Fork near Rainbow	178	88	April-July		202
	206	90	April-Sept.		229
Mohawk River near Springfield	155	93	Feb.-July		166
Oak Grove Fork above Power Intake	123	94	April-July		131
	158	95	April-Sept.		167
Row near Dorena	92	93	April-July		99
	97	93	April-Sept.		104
Santiam, North at Mehama	680	93	April-July		731
	786	94	April-Sept.		838
Santiam, South at Waterloo	497	93	April-July		534
	538	93	April-Sept.		578
Scoggins Creek near Gaston	39	87	Feb.-July		45
Thomas Creek near Scio	156	98	Feb.-July		159
Willamette, Coast Fork near London	27	96	April-July		28
Willamette, Middle Fork below North Fork	635	95	April-July		668
near Oakridge	726	95	April-Sept.		764
Willamette, No. Fork of Mid Fork near Oakridge	173	95	April-July		182
	194	95	April-Sept.		204
Willamette at Salem	4,263	92	April-Sept.		4,655

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

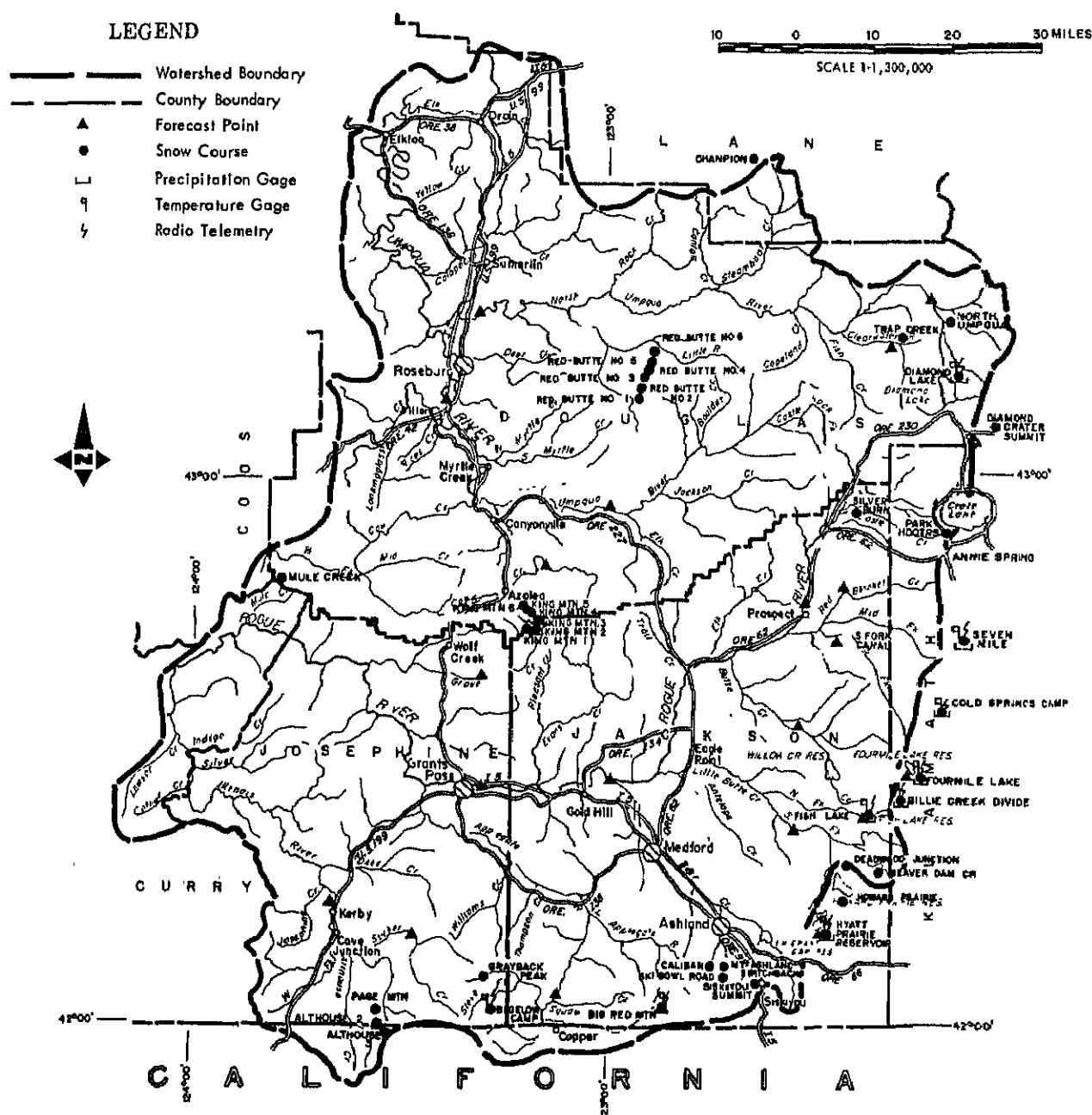
RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average C
Clackamas River	1	56	44
McKenzie River	3	121	69
Row River	2	84	67
Santiam River	2	100	68
Willamette, Mid Fork	4	108	92

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average C
Blue River	85.6*	4.4	2.2	11.6
Cottage Grove	30.0*	1.7	0.3	2.5
Cougar	155.2*	15.1	8.1	22.1
Detroit	299.9*	34.9	20.1	47.1
Dorena	70.5*	4.9	1.1	10.8
Fall Creek	115.0*	8.2	1.2	10.8
Fern Ridge	94.2*	9.9	5.2	18.8
Foster	30.0*	1.2	0.4	1.2
Green Peter	270.0*	35.4	21.3	41.3
Hills Creek	200.0*	15.2	20.4	33.0
Lookout Point	337.2*	27.1	24.8	47.5
Timothy Lake	61.7	55.1	57.9	50.5
Henry Hagg Lake	53.0	30.8	31.9	32.3
*Multiple purpose reservoir--space reserved primarily for flood runoff.				

(a) Estimated. (b) 1961-80 adjusted average. (c) 1961-80, 20 year average. (d) Corrected to natural flow. (e) Not scheduled.

LEGEND



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average
Applegate near Copper	121	98	April-Sept.		123
Big Butte Creek, So. Fork near Butte Falls	37	109	April-July		34
Clearwater above Trap Creek	70	103	April-Sept.		68
Cow Creek near Azalea	36	84	Feb.-July		43
Fourmile Lake net inflow	6.0	150	April-Sept.		4.0 b
Grave Creek at Pease Bridge near Placer	16.8	80	Feb.-July		21
Hyatt Reservoir net Inflow	6.3	134	April-July		4.7
Illinois River near Kerby	162	90	April-July		180
	170	91	April-Sept.		187
Little Butte, N.Fk. at Fish Lake near Lake Cr.	16.9	128	April-Sept.		13.2 b
Little Butte, S. Fk. near Lake Creek	37	128	April-July		29
Red Blanket Creek near Prospect	37	109	April-July		34
Rogue above Prospect	238	97	April-July		245
Rogue, South Fork near Prospect	66	112	April-July		59
	78	111	April-Sept.		70
Rogue at Raygold near Central Point	775	107	April-July		722
	943	107	April-Sept.		880
Rogue at Grants Pass	841	115	April-July		733
	988	113	April-Sept.		876
Sucker Cr. Blw. Little Grayback near Holland	43	77	April-July		56
Umpqua, No. blw. Lemolo Lake nr. Toketee Falls	180	115	April-Sept.		156
Umpqua, No. at Winchester	720	96	April-July		751
Umpqua, South near Brockway	331	88	April-July		377
Umpqua, South at Tiller	172	96	April-July		180

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Cow Creek near Azalea	20	June 29	July 4
	10	Aug. 15	Aug. 19
Little Butte Creek, South Fork	100	May 26	May 15
South Umpqua near Brockway	90	Aug. 1	July 30
South Umpqua at Tiller	140	July 7	July 10
	90	July 27	July 30
	60	Aug. 22	Aug. 27

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average
Applegate	75.2	10.9	11.9	--
Emigrant Lake	39.0	23.6	24.9	23.8
Fish Lake	8.0	6.2	6.2	5.5
Fourmile Lake	16.1	13.4	16.1	8.6
Howard Prairie	60.0	57.3	46.2	40.7
Hyatt Prairie	16.1	14.6	13.0	11.0
Lost Creek	315.0	174.4	169.0	--

SUMMARY of SNOW MEASUREMENTS

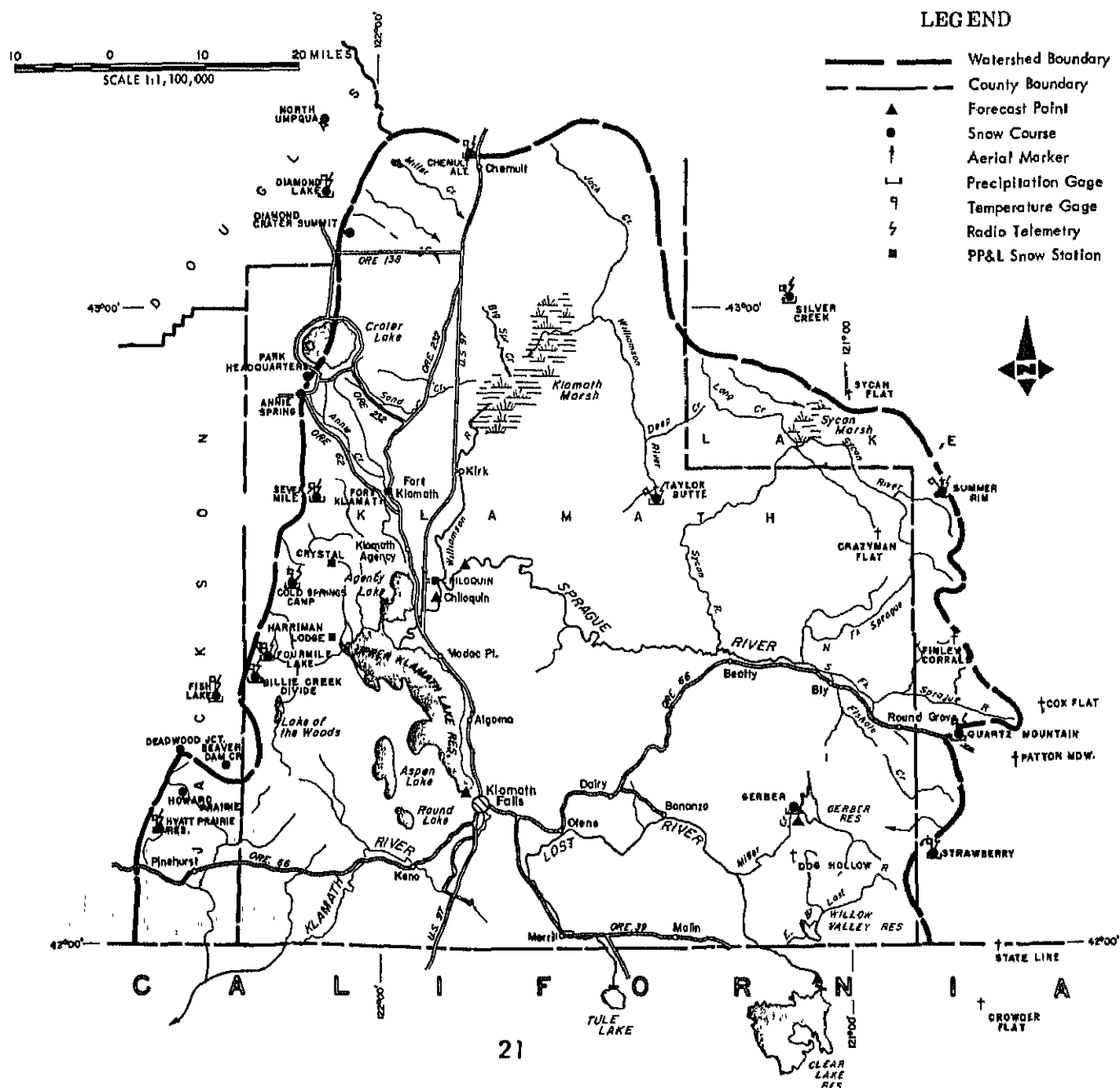
(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average
Applegate	2	55	101
Bear Creek	2	78	93
Butte Creek	3	87	130
Illinois River	3	40	51
North Umpqua	3	98	79
Rogue River	3	104	111
Mt. Ashland			

(a) Estimated. (b) 1961-80 adjusted average. (c) 1961-80, 20 year average. (d) Corrected to natural flow. (e) Not scheduled

GENERAL OUTLOOK

Klamath County should experience above average water supplies this spring and summer. The mountain snowpack ranges from 111% of average in the Williamson basin to 175% in the Sprague basin. While January precipitation was very low (19% of average) it remains high for the winter season (121% of average). Reservoir storage remains above normal except for Upper Klamath Lake which is 94% of the February 1 average. All reservoirs should fill this year. Streamflow forecasts range from 115% of normal for the Williamson to 160% for the Sprague.



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ^c
Clear Lake Reservoir Inflow	129	147	Feb.-July		88
Gerber Reservoir Inflow	58	153	Feb.-July		38
Sprague near Chiloquin	518	160	Feb.-Sept.		324
	318	160	April-Sept.		199
Upper Klamath Lake net Inflow	932	111	April-July		841
	584	116	April-Sept.		502
Williamson below Sprague River	651	115	Feb.-Sept.		566
	445	115	April-Sept.		387

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ^c
Clear Lake	440.2	427.6	306.8	207.8
Gerber	94.0	56.5	72.8	43.3
Upper Klamath Lake	584.0	340.7	342.3	362.9

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
Lost River	4	129	148
Sprague River	2	106	175
Upper Klamath	4	95	119
Williamson River	3	93	111

sted average. (c) 1961-80, 20 year average. (d) Corrected to natural flow. (e) Not scheduled

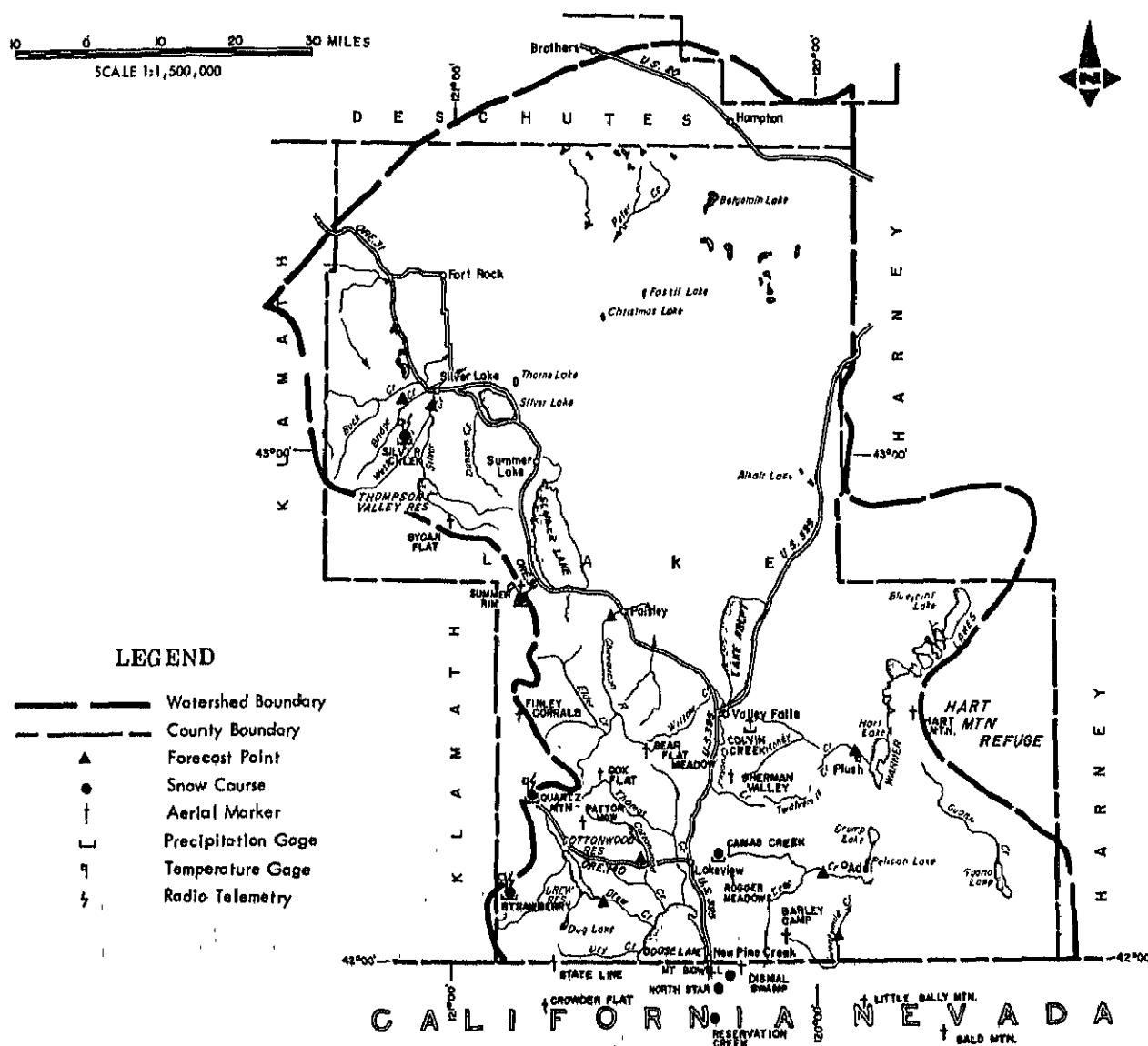
WATER SUPPLY OUTLOOK

LAKE COUNTY, GOOSE LAKE WATERSHEDS

OREGON

GENERAL OUTLOOK

Spring and summer water supplies should be excellent for Lake County. The mountain snowpack is much above average. It ranges from $1\frac{1}{2}$ times normal on Drew Creek to $2\frac{1}{2}$ times on Twentymile Creek. January precipitation in Lake County was the lowest in the state at 15% of average. For the winter season, however, it remains above average at 112 percent. Reservoir storage is also above average and all reservoirs should fill this year. Streamflows should recede from 1 to 5 weeks later than normal this year. Streamflow forecasts range from 127% of normal for Honey Creek to 219% for Twentymile Creek.



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ^c
Bridge Creek near Spahr Ranch near Silver Lake	5.5	157	April-July		3.5
Chewaucan near Paisley	118	144	March-July		82
Cottonwood Creek near Lakeview	14.5	134	March-July		10.8
Deep above Adel	105	138	March-July		76
Drews Reservoir net Inflow	57	133	March-July		43 b
Honey Creek near Plush	24	127	March-July		18.9
Silver Creek near Silver Lake	25	174	April-July		14.4 b
Twentymile Creel near Adel	57	219	March-July		26

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Deep Cr. above Adel	100	July 17	June 21
Honey Cr. near Plush	100	May 22	May 15
	50	June 9	May 30
Twentymile near Adel	50	July 14	June 2
	10	Aug. 15	July 3

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ^c
Cottonwood	8.7	3.2	3.7	2.9
Drews	63.0	50.3	43.3	34.2
Thompson Valley	19.5	16.1	16.4	13.3

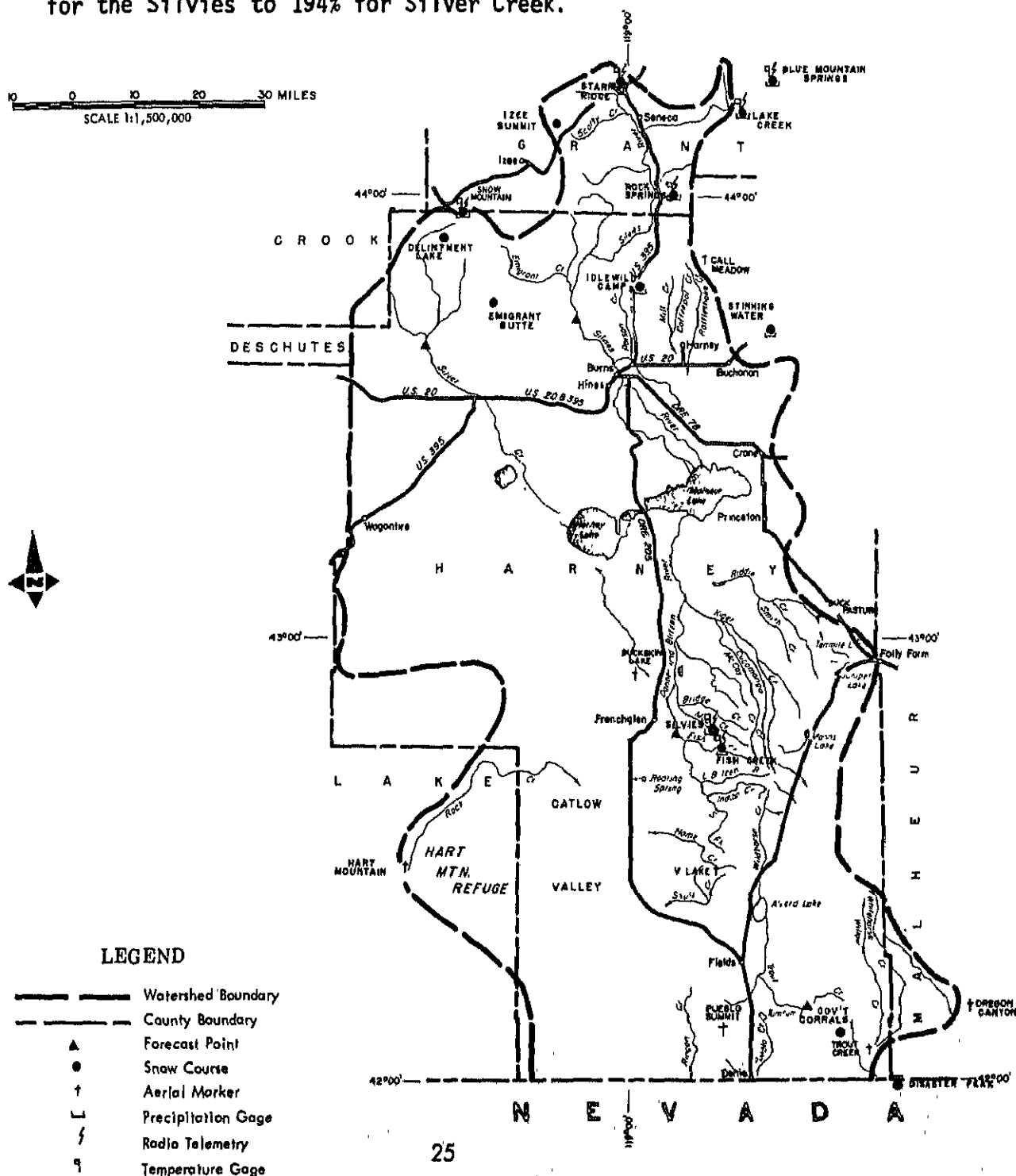
SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
Chewaucan River	2	106	175
Deep Creek	4	125	161
Drew Creek	2	99	152
Honey Creek	3	87	157
Silver Creek	3	140	193
Twentymile Creek	3	100	251

(a) Estimated. (b) 1961-80 adjusted average. (c) 1961-80 20 year average. (d) Corrected to natural flow. (e) Not scheduled.

Abundant water supplies are forecast for this spring and summer in Harney County. The snowpack remains high at 1½ times to twice normal. January precipitation was only 19% of average but it remains high (121 percent) for the winter season. Streamflows will recede about two weeks later than normal. Streamflows range from 131% of average for the Silvies to 194% for Silver Creek.



STREAMFLOW FORECASTS

STREAMFLOW FORECASTS		THIS YEAR		PAST RECORD	
BASIN, STREAM and/or FORECAST POINT	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acres Feet	Percent of Average		Last Year	Average ^c
Donner und Blitzen near Frenchglen	84	135	April-July		62
	78	132	April-Sept.		59
Silver near Riley	30	194	April-July		15.5
Silvies River near Burns	137	141	March-July		97
	101	131	April-Sept.		77
Trout Creek near Denio			March-July		93

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Silvies near Burns	400	May 13	May 5
	200	June 1	May 21
	100	June 18	June 9
	50	July 4	June 23
Donner und Blitzen	200	June 30	June 15
	100	July 17	July 5
<hr/>			
Malheur Lake at Break in Cole Island Dike near Voltage	<u>GAGE HEIGHT</u>	<u>SURFACE ACRES</u>	<u>AVG. SURFACE ACRES</u>
	July 1	4100.56	109,000
	August 1	4100.07	106,000

SUMMARY of SNOW MEASUREMENTS (COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average C
Donner und Blitzen	2	125	165
Silver Creek	2	116	185
Silvies River	4	113	146
Trout Creek	-	--	--

(a) Estimated, (b)

adjusted average, (c)

year average, (d) Corrected to natural flow, (e) Not scheduled.

BASIC DATA SUPPLEMENT 1

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST RECORD	
	Date of Survey	Snow Depth (in.)	Water Cont. (in.)	Water Content (inches)	
				Last Yr.	Ave. C
OWYHEE MALHEUR WATERSHEDS AREA 1					
Antelope Ridge (Ida.)	Late	Report			
Battle Creek (Ida.) *	Late	Report			
Bear Creek (Nev.)	2/1		22.7	14.8	13.8b
Big Bend (Nev.)	e			6.7	6.0
Blue Mountain Springs	1/26	46	15.2	14.5	11.4
Blue Mtn. Spgs. Plw. (T)	2/1	--	8.8	17.3	--
Boulder Creek *	Late	Report			
Buck Pasture *	Late	Report			
Buckskin, Lower (Nev.)	2/1	--	13.5	8.5a	--
Buckskin, Upper (Nev.)	e				
Bull Basin (Ida.) *	Late	Report		--	1.4
Bully Creek *	Late	Report		--	2.0b
Call Meadows *	Late	Report		--	2.5b
Columbia Basin (Nev.)	1/26	54	18.4	8.6	7.0b
Disaster Peak (Nev.)	No Report			14.4a	--
Eldorado Pass	1/30	22	6.0	3.1	3.0
Fawn Creek (Nev.)	1/26	58	19.7	--	4.8b
Fish Creek (Nev.)	1/25	73	26.2	21.0	--
Fish Creek Pillow (T)	2/1	--	12.4	28.0	--
Flag Prairie *	Late	Report		--	3.7
Fox Creek (Nev.)	e			--	--
Fry Canyon (Nev.)	1/31	34	12.0	7.7	5.0
Gold Creek (Nev.)	e			4.6	3.9
Government Corrals	1/31	48	18.0	11.5	--
Granite Peak (Nev.)	e			16.2	10.8b
Hyde Pasture (Ida.) *	Late	Report		--	4.4
Jack Creek, Lower (Nev.)	e				
Jack Creek, Upper (Nev.)	2/1	66	21.7	8.8	4.8
Jacks Peak (Nev.)	e			20.3	11.0b
Johnston Pond (Ida.) *	Late	Report			
Lake Creek R.S.	1/26	37	11.8	10.4	7.6
Lake Creek R.S. Plw. (T)	2/1	--	16.0	13.5	--
Laurel Draw (Nev.)	2/1	43	14.5a	7.1	5.2
Lookout Butte *	Late	Report			
Louse Canyon *	Late	Report		10.5	2.6b
Martin Creek (Nev.)	e				7.4b
Merritt Mountain (Nev.) *	1/26	36	12.2	4.7	4.2b
Midas (Nev.) *	e			6.1	2.4b
Mud Flat (Ida.)	e				4.2b
Oregon Canyon *	Late	Report			4.0b
Quinn Ridge (Nev.) *	No Report			2.0	1.3b
Red Canyon (Ida.) *	e				5.8
Rock Springs	1/25	29	8.4	6.9	4.2
Rock Spgs. Plw. (T)	No Report			7.2	--
Rodeo Flat (Nev.)	1/31	39	13.0	8.4	4.1
76 Creek (Nev.) *	e			9.9	7.6
Silver City (Ida.) *	e			15.4	--
Silver City (Ida.)	e				10.0
Silvies	1/25	40	14.5	11.5	6.1b
Silvies Pillow (T)	2/1	--	15.3	--	--
South Mountain #2 (Ida.)	1/29	51	17.0	15.4	9.4
South Mtn. #2 Plw. (T)	2/1	--	22.9	20.6	--
Stag Mountain (Nev.) *	1/26	38	12.5	6.7	3.8b
Stinking Water	e			4.3	2.2
Succor Creek (Ida.) *	e			9.6	3.7
Taylor Canyon (Nev.)	1/31	32	12.1	6.7	9.0
Toe Jam (Nev.) *	1/26	48	16.3	10.1	6.7
Tremewan Ranch (Nev.) *	1/31	18	5.6	2.5	1.2
Trout Creek *	Late	Report		--	4.9
"Y" Lake *	Late	Report		--	4.0
Vaught Ranch (Ida.) *	e			--	3.9b
War Eagle (Ida.) *	e			25.5	18.6b

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST RECORD	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (Inches)	
				Last Yr.	Ave. C
BURNT, POWDER, PINE, IMNAHA GRANDE RONDE WATERSHEDS AREA 2					
Aneroid Lake #2	No Report			22.8	21.6
Aneroid Lake #2 Plw. (T)	2/1	--	15.6	19.2	--
Anthony Lake	e			18.2	17.3
Bald Mountain (OR) *	1/27	63	18.9	15.8	15.9
Beaver Reservoir (Rev.)	1/27	34	9.0	7.2	8.7
Beaver Res. Pillow (T)	2/1	--	10.9	6.1	--
Big Sheep *	1/27	66	19.7	21.0	18.9
Blue Mtn.Summit (DISC.82)	2/1		8.6a	7.9a	6.6
Bourne	1/26	50	14.0	13.7	11.1
Bourne Pillow (T)	2/1	--	15.9	16.7	--
County Line (Rev.)	1/30	14	4.6	3.6	3.7
County Line Pillow (T)	2/1	--	5.1	4.5	--
Dooley Mountain (DISC.82)	1/26		6.7a	7.3a	6.4
Eilertson Meadows	1/26	33	9.2	10.0	8.3
Eilertson Meadows Plw. (T)	2/1	--	10.7	8.9	--
Eldorado Pass	1/30	22	6.0	3.1	3.0
Gold Center (Rev.)	1/26	35	10.1	10.8	9.2
Gold Center Pillow (T)	2/1	--	10.1	11.2	--
Goodrich Lake (DISC.82)	1/26		28.6a	--	27.2b
Little Alps	e		10.0	8.8	
Little Antons (Alt.)	e		8.5	5.7b	
Lucky Strike	1/30	25	7.0	8.3	8.2
Lucky Strike Pillow (T)	2/1	--	8.5	11.0	--
Mirror Lake *	1/27	154	47.7	40.9	46.6
Moss Spring	1/27	51	16.0	14.6	15.4
Moss Spring Pillow (T)	2/1	--	17.1	16.2	--
Mt. Howard Pillow (T)	1/31	--	14.2	5.8	--
Schneider Meadow	1/27	68	21.8	21.0	22.1
Schneider Meadow Plw. (T)	2/1	--	22.5	28.1	--
Standley *	1/27	56	16.2	20.2	19.6
Taylor Green (DISC. 83)	2/1	--	13.0a	16.0	12.1
Taylor Green Pillow (T)	2/1	--	9.2	17.4	--
Tipton	1/26	32	10.3	9.4	8.0
Tipton Pillow (T)	2/1	--	15.4	14.6	--
TV Ridge *	1/27	33	9.6	14.0	12.2b
West Eagle Meadows *	1/27	70	21.7	25.8	16.0b
Wolf Creek Pillow (T)	2/1	--	16.4	14.4	--
UMATILLA, WALLA WALLA, ROCK, LOWER JOHN DAY WILLOW WATERSHEDS AREA 3					
Arbuckle Mountain	1/30	22	7.2	9.1	9.1
Arbuckle Mountain Plw. (T)	2/1	--	14.3	21.8	--
Blue Mountain Camp(DISC.82)	1/31		9.3a	11.0a	12.1
Bowman Springs Plw. (T)	2/1	--	7.2	7.8	--
Butte Creek Summit	e				
Emigrant Springs (Rev.)	1/30	12	4.0	3.6	3.8
Emigrant Springs Plw. (T)	No Report			6.3	--
High Ridge Pillow (T)	2/1	--	17.8	22.4	--
Lucky Strike	1/30	25	7.0	8.3	8.2
Lucky Strike Pillow (T)	2/1	--	8.5	11.0	--
Madison Butte Pillow (T)	2/1	--	5.1	6.7	--

(a) Estimated, (b) 1963-77 adjusted average, (c) 1963-77, 15 year average, (d) Co

BASIC DATA SUPPLEMENT 1

SNOW		THIS YEAR			PAST RECORD		SNOW		THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE		Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (Inches)		DRAINAGE BASIN and/or SNOW COURSE		Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (Inches)	
					Last Yr.	Ave. C						Last Yr.	Ave. C
UPPER JOHN DAY WATERSHEDS AREA 4							HOOD, MILE CREEK, LOWER DESCHUTES WATERSHEDS AREA 6						
Anthony Lake	e				18.2	17.3	Brooks Meadow	e				--	--
Arbuckle Mountain	1/30	22	7.2	9.1	7.1		Clear Lake	e				3.8	6.5
Arbuckle Mountain Plw. (T)	2/1	--	14.3	21.8	--		Clear Lake Pillow (T)	2/1	--	8.4		9.2	--
Blue Mountain Springs	1/26	46	15.2	14.5	11.4		Clear Lake Expt.	e				6.6	10.4
Blue Mtn. Spgs. Plw. (T)	2/1	--	8.8	17.3	--		Greenpoint	e				8.8	11.3
Blue Mountain Sum.(DISC.82)	2/1	--	8.6a	7.9a	6.6		Greenpoint Pillow (T)	2/1	--	9.9		14.4	--
Butte Creek Summit	e				--		High Prairie	1/30	67	26.8		--	--
Derr	1/25	34	11.8	11.8	6.9		Mt. Hood Test Site (T)	2/1	--	36.8		40.0	43.3b
Derr Pillow (T)	2/1	--	13.6	17.8	--		Mud Ridge Pillow (T)	2/1	--	12.6		14.5	--
Gold Center (Rev.)	1/26	35	10.1	10.8	9.2		Red Hill	1/31	45	20.1		18.0	24.0
Gold Center Plw. (T)	2/1	--	8.8	11.2	--		Red Hill Pillow (T)	2/1	--	33.2		24.1	--
Izee Summit (DISC. 82)	1/25		8.3a	7.2a	5.6		Switchback (DISC. 82)	2/1		13.4a		8.2a	11.5
Lucky Strike	1/30	25	7.0	8.3	8.2		Tilly Jane (DISC 82)	1/31		21.0a		19.3a	26.7
Lucky Strike Pillow (T)	2/1	--	8.5	11.0	--								
Marks Creek	1/27	19	6.4	3.8	2.6		LOWER COLUMBIA WATERSHED AREA 7						
Ochocho Meadows	1/26	34	11.1	9.1	6.7		Blazed Alder Pillow (T)	No Report				14.7	--
Ochocho Meadows Plw. (T)	2/1	--	10.0	9.6	--		Mt. Hood Test Site (T)	2/1	--	36.8		40.0	43.3b
Snow Mountain (DISC. 82)	2/1	--	18.5a	16.1a	9.4b		Mud Ridge Pillow (T)	2/1	--	12.6		14.5	--
Snow Mountain Plw. (T)	2/1	--	15.2	13.0	--		North Fork Res. (T)	2/1	--	2.1		3.8	--
Starr Ridge (Rev.)	1/25	27	7.2	6.1	4.4								
Starr Ridge Plw. (T)	1/31	--	9.4	8.1	--		WILLAMETTE WATERSHEDS AREA 8						
Tipton	1/26	32	10.3	9.4	8.0		Cascade Summit	e				18.6	18.6
Tipton Pillow (T)	2/1	--	15.4	14.6	--		Cascade Summit Plw. (T)	2/1	--	23.3		21.4	--
							Champion (DISC. 82)	1/31		14.6a		17.2a	16.7
UPPER DESCHUTES, CROOKED WATERSHEDS AREA 5							Clackamas Lake (Rev.)	e					
Bald Peter	1/25	58	19.6	26.4	18.8b		Clackamas Lake Plw. (T)	2/1	--	9.9		6.7	--
Beaver Creek #1	1/26	30	10.0	6.4	--		Clear Lake	e				3.8	6.3
Beaver Creek #2	1/26	21	6.2	4.4	--		Clear Lake Plw. (T)	2/1	--	8.4		9.2	--
Caldwell Ranch (DISC. 82)	1/31		9.5a	8.5a	7.3		Clear Lake Expt.	e				6.6	10.4
Cascade Summit	e				18.6		Daly Lake Plw. (T)	2/1	--	6.2		4.2	--
Cascade Summit Plw. (T)	2/1	--	23.3	21.4	--		Dead Horse Grade	e				3.8	10.0
Chemult Alternate	2/1	39	11.3	12.3	8.9		Golden Curry Creek(DISC.82)	2/1		1.8a		2.4a	2.7
Chemult Alt. Plw. (T)	2/1	--	11.0	8.3	--		Hogg Pass (DISC. 83)	2/1		20.2a		22.2	25.3
Derr	1/25	34	11.8	11.8	6.9		Hogg Pass Pillow (T)	2/1	--	22.4		20.6	--
Derr Pillow (T)	2/1	--	13.6	17.8	--		Holland Meadows Plw. (T)	2/1	--	7.8		16.4	--
Hogg Pass (DISC. 83)	2/1	--	20.2a	22.2	25.3		Jump Off Joe Pillow (T)	2/1	--	1.6		5.3	--
Hogg Pass Pillow (T)	2/1	--	22.4	20.6	--		Little Meadows Plw. (T)	2/1	--	14.7		12.6	--
Hungry Flat	2/1	10	3.6	2.1	4.5		Lost Creek Ranch (DISC.82)	2/1		0.0a		0.9a	--
Irish-Taylor Pillow (T)	2/1	--	16.6	21.1	--		Marion Forks (Rev.)	e				1.9	7.6
Lionshead *	2/1	24	7.2	--	7.3b		Marion Forks Pillow (T)	1/31	--	6.6		3.6	--
Marks Creek	1/27	19	6.4	3.8	2.6		Mary's Peak (Rev.)	2/1	0	0.0		0.3	3.7b
New Crescent	1/31	38	12.8	11.4	9.4		McCradie Springs (DISC.82)	2/1		0.0a		0.0a	0.4
New Crescent Lake Plw. (T)	2/1	--	12.4	10.4	--		McKenzie	e				23.4	28.2
New Dutchman Flat #2	2/1	87	35.8	35.7	33.4		McKenzie Pillow (T)	2/1	--	23.5		26.1	--
Ochocho Meadows	1/26	34	11.1	9.1	6.7		Mt. Hood Test Site (T)	2/1	--	36.8		40.0	43.3b
Ochocho Meadows Plw. (T)	2/1	--	10.0	9.6	--		Peavine Ridge Pillow (T)	2/1	--	5.2		9.3	13.3b
Racing Creek	1/25	33	10.2	10.8	7.1b		Railroad Overpass	e				0.0	1.3
Snow Mountain (DISC. 82)	2/1	--	18.5a	16.1a	9.4b		Railroad Overpass Plw. (T)	2/1	--	0.0		0.3	--
Snow Mountain Plw. (T)	2/1	--	15.2	13.0	--		Roaring River Plw. (T)	2/1	--	18.8		19.3	--
Summit Lake Pillow (T)	2/1	--	29.6	23.3	--		Saddle Mtn. Pillow (T)	2/1	--	0.0		0.0	--
Tamarack (DISC. 82)	1/27		6.9a	5.1a	4.2		Salt Creek Falls	e				7.8	9.4
Tangent	No Report						Salt Creek Falls Plw. (T)	2/1	--	11.9		14.7	--
Three Creek Butte	1/27	27	8.8	7.1	7.8		Santiam Junction	e				12.3	15.4
Three Creek Meadow	1/27	35	11.5	12.7	11.6		Santiam Junction Plw. (T)	2/1	--	12.8		14.5	--
Three Creek Mdw. Plw. (T)	2/1	--	16.7	12.7	12.8		Seine Creek Pillow (T)	2/1	--	1.0		0.6	--
Whitewater Meadow *	2/1	4	1.2	--	4.2b		Summit Lake Pillow (T)	2/1	--	29.6		23.3	--
							Timothy Lake	1/31	20	5.8		--	9.6b
							Weaver Creek (DISC. 82)	2/1		0.0a		0.2a	0.3
							White Branch Slide(DISC.82)	2/1		0.0a		1.3a	3.3
							Whitewater Bridge(DISC.82)	2/1		2.6a		0.7a	3.8

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

BASIC DATA SUPPLEMENT 1

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST RECORD	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (Inches)	
				Last Yr.	Ave. C
ROGUE, UMPQUA WATERSHEDS AREA 9					
Althouse #2	1/30	0	0.0	5.0	4.2b
Althouse #3	1/30	12	5.0	16.0	--
Annie Springs (Disc. 83)	2/3		34.0a	36.6	27.7
Annie Springs (Rev.)	2/3	79	33.5	--	--
Beaver Dam Creek	1/31	33	13.6	16.5	9.0
Bigelow Camp Plw. (T)	2/1	--	3.3	19.8	--
Big Red Mtn (DISC. 83)				37.2a	18.1
Big Red Mtn. Rev.	1/26	56	23.1	36.8	--
Big Red Mtn. Plw. (T)	2/1	--	20.8	31.3	--
Billie Cr. Div. (DISC. 83)	e			19.5	14.0
Billie Cr. Div. Plw. (T)	2/1	--	27.0	18.3	--
Caliban (Alternate)	1/27	54	21.2	29.3	17.5
Champion (DISC. 82)	1/31		14.6a	7.2a	--
Cold Spgs. Camp (DISC. 83)				27.5a	22.5
Cold Springs Camp Rev.	1/27	84	32.7	27.8	--
Cold Spgs. Camp Plw. (T)	2/1	--	32.5	28.0	--
Deadwood Junction	1/31	12	5.7	10.7	6.1
Diamond-Crater Sum. (DISC. 82)	e			25.6a	--
Diamond Lake	1/25	38	12.8	14.5	13.6
Diamond Lake Plw. (T)	2/1	--	10.0	--	--
Fish Lake	1/27	33	13.9	12.6	9.1b
Fish Lake Pillow (T)	2/1	--	12.4	11.8	--
Fourmile Lake (DISC. 83)	1/27		20.4a	19.9	12.4b
Fourmile Lake Plw. (T)	2/1	--	33.3	23.1	--
Grayback Peak	1/26	32	14.5	--	15.1
Howard Prairie Reservoir	1/31	21	8.2	12.1	5.8
Hyatt Prairie Reservoir	1/31	17	7.6	11.2	6.3
Hyatt Prairie Res. Plw. (T)	2/1	--	5.8	11.4	--
King Mountain #1	1/30	0	0.0	7.3	4.2b
King Mountain #2	1/30	0	0.0	5.6	2.8b
King Mountain #2 Plw. (T)	2/1	--	0.0	3.9	--
King Mountain #3	1/31	0	0.0	0.0	0.6b
King Mountain #4	1/31	0	0.0	0.0	--
King Mountain #5	1/31	0	0.0	0.0	--
King Mountain #6	1/31	0	0.0	0.0	--
Mt. Ashland Switchback	1/27	63	22.8	28.3	22.9b
Mule Creek	1/30	0	0.0	0.0	6.6b
North Umpqua	1/30	27	9.4	8.1	10.0
Page Mountain	1/30	0	0.0	0.0	4.1
Park Headquarters (Disc. 83)	1/30		45.8a	48.1	38.2
Park Headquarters (Rev.)	1/30	109	46.4	--	--
Red Butte #1	1/27	2	0.9	6.8	7.5
Red Butte #2	1/27	TR	0.1	4.5	4.8
Red Butte #3	1/27	0	0.0	0.0	2.7
Red Butte #4	1/27	0	0.0	0.0	1.4
Red Butte #5	1/27	0	0.0	0.0	0.5
Red Butte #6	1/27	0	0.0	0.0	--
Seven Mile	1/31	77	30.2	--	17.2b
Seven Mile Pillow (T)	2/1	--	16.0	25.9	--
Silver Burn	2/1	23	8.5	9.7	8.7
Siskiyou Summit	1/26	15	6.2	9.1	5.3
Ski Bowl Road	1/27	57	21.0	28.0	18.7b
South Fork Canal	2/1	0	0.0	0.0	2.7
Trap Creek	1/30	16	6.0	6.2	8.4

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST RECORD	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (Inches)	
				Last Yr.	Ave. C
KLAMATH WATERSHEDS AREA 10					
Annie Springs (Disc. 83)	2/3		34.0a	36.6	27.7
Annie Springs (Rev.)	2/3	79	33.5	--	--
Billie Cr. Div (DISC 83)	e			19.5	14.0
Billie Cr. Div Plw. (T)	2/1		27.0	18.3	--
Chemult Alternate	2/1	39	11.3	12.3	8.9
Chemult Alternate Plw (T)	2/1	--	11.0	8.3	--
Chiloquin (PP&L)	1/31	10	4.0	0.0	1.9b
Cold Spgs. Camp (DISC. 83)				27.5a	22.5
Cold Springs Camp Rev	1/27	84	32.7	27.8	--
Cold Spgs. Camp Plw (T)	2/1	--	32.5	28.0	--
Crazyman Flat *	1/26	21	6.5	9.0	6.7
Crowder Flat (Calif)	1/26	10	3.3	--	2.4
Crystal (PP&L)	1/31	22	8.5	5.0	6.2b
Diamond-Crater Sum.(DISC 82)	e			25.6a	--
Dog Hollow *	1/26	4	1.3	2.1	0.9
Finley Corrals *	1/26	51	17.3	15.4	11.6
Fort Klamath (PP&L)	1/31	15	6.0	4.0	3.0b
Fourmile Lake (DISC. 83)	1/27		10.4a	19.9	12.4
Fourmile Lake Plw. (T)	2/1	--	33.3	23.1	--
Gerber	2/1	10	3.9	2.5	2.4
Harriman (PP&L)	1/31	12	5.5	0.1	3.7b
Howard Prairie Reservoir	1/31	21	8.2	12.1	6.3
Hyatt Prairie Reservoir	1/31	17	7.6	11.2	5.4
Hyatt Prairie Res. Plw. (T)	2/1	--	5.8	11.4	--
Park Headquarters (Disc 83)	1/30		45.8a	48.1	38.2
Park Headquarters (Rev.)	1/30	109	46.4	--	--
Quartz Mountain	1/31	23	7.7	7.4	4.6
Quartz Mtn. Pillow (T)	2/1	--	10.0	11.6	--
Seven Mile	1/31	77	30.2	--	17.2b
Seven Mile Pillow (T)	2/1	--	16.0	25.9	--
State Line (Calif.) *	1/26	22	7.3	--	6.0
Strawberry	1/27	23	7.5	7.9	5.4b
Strawberry Pillow (T)	2/1	--	5.3	8.9	--
Summer Rim *	1/26	39	11.3	14.7	10.7
Summer Rim	e				
Summer Rim Pillow (T)	2/1	--	17.8	18.7	--
Sycan Flat *	1/26	21	8.0	6.3	5.1
Taylor Butte	1/30	21	7.0	6.5	3.7
Taylor Butte Pillow (T)	2/1	--	9.2	5.1	--

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

BASIC DATA SUPPLEMENT 1

SNOW		THIS YEAR			PAST RECORD		SNOW		THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE		Date of Survey	Snow Depth (in.)	Water Cont. (in.)	Water Content (Inches)		DRAINAGE BASIN and/or SNOW COURSE		Date of Survey	Snow Depth (in.)	Water Cont. (in.)	Water Content (Inches)	
					Last Yr.	Ave. c						Last Yr.	Ave. c
LAKE COUNTY, GOOSE LAKE WATERSHEDS AREA 11							HARNEY BASIN WATERSHEDS AREA 12						
Adin Mountain (Calif.)		1/30	35	12.0	13.1	8.0	Blue Mountain Springs		1/26	46	15.2	14.5	11.4
Bald Mountain (Nev.)		1/26	20	6.2	3.6	--	Blue Mtn. Spgs. Plw. (T)		2/1	--	8.8	17.3	--
Barley Camp *		1/26	44	14.5	14.7	--	Buck Pasture *		Late Report			--	1.3
Bear Flat Meadow *		1/26	31	10.2	11.5	6.6	Buckskin Lake *		Late Report			--	0.7b
Camas Creek #1		1/31	31	10.4	10.6	7.3	Call Meadows *		Late Report			--	2.8
Camas Creek #2		1/31	37	11.7	12.4	--	Delintment Lake (DISC.82)		e				
Cedar Pass (Calif.)		1/25	48	17.2	11.4	10.3	Disaster Peak (Nev.)					14.4	--
Colvin Creek *		1/26	19	5.9	7.0	3.3b	Emigrant Butte (DISC. 82)		1/25		4.5a	3.8a	2.9
Cox Flat *		1/26	21	6.9	10.9	4.8	Fish Creek (Rev.)		1/25	73	26.2	21.0	--
Crowder Flat (Calif.)		1/26	10	3.3	3.0	2.4	Fish Creek Plw. (T)		2/1	--	31.3	28.0	--
Dismal Swamp (Calif.) *		1/26	89	29.4	19.2	11.0	Government Corrales		1/31	48	18.0	11.5	--
Dismal Swamp #2 Plw. (T)		2/1	--	27.9	21.3	--	Hart Mountain *		1/26	14	4.5	2.2	1.1
Finley Corrales *		1/26	51	17.3	15.4	11.6	Idlewild Camp Alt(DISC.82)		1/25		6.3a	5.1a	3.8b
Hart Mountain *		1/26	14	4.5	2.2	1.1	Izee Summit (DISC. 82)		1/25		8.3a	7.2a	5.6
Little Bally Mtn. (Nev.)		1/26	12	4.1	5.3	2.4	Lake Creek R.S.		1/26	37	11.8	10.4	7.1
Mt. Bidwell (Calif.)		e		--	--	--	Lake Creek R.S. Plw. (T)		2/1	--	16.0	13.5	--
North Star (Calif.)		e		--	--	--	Oregon Canyon *		Late Report			--	4.0b
Patton Meadows *		1/26	51	15.8	15.7	11.5	Pueblo Summit *		Late Report			--	--
Quartz Mountain		1/31	23	7.7	7.4	4.6	Rock Springs		1/25	29	8.4	6.9	4.2
Quartz Mountain Plw. (T)		2/1	--	10.0	11.6	--	Rock Springs Plw. (T)		No Report			7.2	--
Reservation Creek (Calif.)		1/30	43	16.8	10.0	8.0	Silvies		1/25	40	14.5	11.5	--
Rogger Meadows *		1/26	39	12.5	13.8	--	Silvies Pillow (T)		2/1	--	15.3	24.2	--
Sherman Valley *		1/26	38	11.8	14.7	7.5	Snow Mountain (DISC.82)		2/1	--	18.5a	16.1a	9.4b
Silver Creek		2/1	15	6.8	2.8	2.0	Snow Mountain Plw. (T)		2/1	--	15.2	13.0	--
Silver Creek Plw. (T)		2/1	--	10.1	12.2	--	Starr Ridge		1/25	27	7.2	6.1	4.4
State Line (Calif.) *		1/26	22	7.3	--	6.0	Starr Ridge Pillow (T)		1/31	--	9.4	8.1	--
Strawberry		1/27	23	7.5	7.9	5.4b	Stinking Water		e			4.3	2.2
Strawberry Plw (T)		2/1	--	5.3	8.9	--	Trout Creek *		Late Report			--	4.9
Summer Rim *		1/26	39	11.3	14.7	10.7	"v" Lake *		Late Report			--	4.2
Summer Rim		e											
Summer Rim Plw. (T)		2/1	--	17.8	18.7	--							
Sycan Flat *		1/26	21	8.0	6.3	5.4							

* Aerial
 TR = Trace
 T = Telemetry Measurement
 S = Snow Tube Measurement
 M = Manometer Measurement
 (DISC. ##) = Snow Course
 manual measurement discontinued
 in year shown-estimates to be
 made for 5 years.

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

BASIC DATA SUPPLEMENT 2

PRECIPITATION (Inches)

DRAINAGE BASIN and PRECIPITATION GAGE LOCATION	ELEVATION	CURRENT INFORMATION		PAST RECORD	
		Date of Reading	Precipitation	Last Year	Average ^c
Aneroid Lake #2 (Wallowa County)	7300	From 1/2 To 1/27	16.2		
Arbuckle Mountain (Morrow County)	5400	From 12/28 To 1/30	4.08		
Beaver Reservoir (Union County)	5150	From 12/30 To 1/26	5.28		
Bigelow Camp (Josephine County)	5120	From 1/1 To 1/26	0.94		
Big Red Mountain (Jackson County)	6250	From 9/30 To 1/26	33.24		
Billie Creek Divide (Jackson County)	5310	From 12/30 To 1/27	6.96		
Blue Mountain Springs (Grant County)	5900	From 12/29 To 1/29	3.84		
Bourne (Baker County)	5800	From 9/28 To 1/26	20.6		
Bowman Springs (Union County)	4580	From 12/28 To 1/30	5.75		
Cold Springs (Klamath County)	6100	From 1/1 To 1/30	6.92		
County Line (Umatilla County)	4800	From 12/28 To 1/30	4.67		
Deer (Wheeler County)	5670	From 1/1 To 1/25	1.36		
Diamond Lake (Douglas County)	4600	From 12/28 To 1/25	4.32		
Eilertson Meadows (Baker County)	5400	From 12/30 To 1/26	10.9		
Fish Creek (Harney County)	7900	From 9/26 To 1/25	27.36		
Fish Lake (Jackson County)	4665	From 12/30 To 1/27	3.12		
Fourmile Lake (Klamath County)	6000	From 12/30 To 1/27	3.72		
Gold Center (Grant County)	5340	From 12/30 To 1/26	3.0		
Greenpoint (Hood River County)	3200	From 1/1 To 1/30	4.90		
Hyatt Prairie (Jackson County)	4900	From 12/31 To 1/31	1.80		
Irish-Taylor (Deschutes County)	5500	From 1/2 To 1/31	6.98		
Lake Creek (Grant County)	5120	From 12/28 To 1/26	3.60		

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

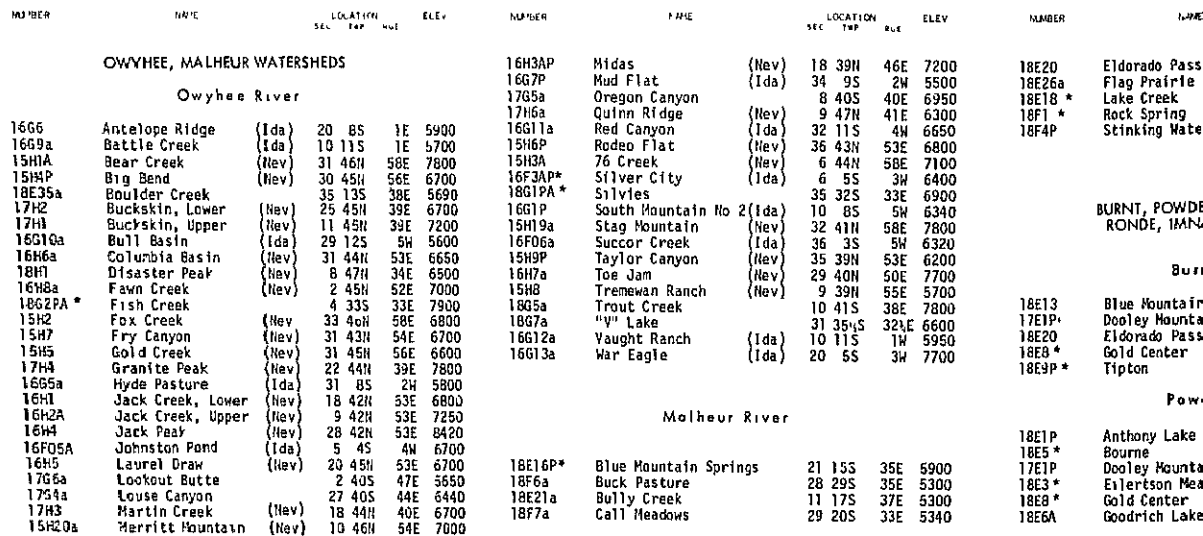
BASIC DATA SUPPLEMENT 2

PRECIPITATION (Inches)

DRAINAGE BASIN and PRECIPITATION GAGE LOCATION	ELEVATION	CURRENT INFORMATION		PAST RECORD	
		Date of Reading	Precipitation	Last Year	Previous
Lucky Strike (Umatilla County)	5050	From 12/28 To 1/30	0.78		
Madison Butte (Harrow County)	5250	From 12/28 To 1/30	2.52		
Moss Springs (Union County)	5850	From 1/1 To 1/27	8.14		
Mt. Hood Test Site (Clackamas County)	5400	From 1/11 To 1/27	8.52		
Mt. Howard (Wallowa County)	7910	From 1/1 To 1/27	3.64		
Ochoco Meadows (Crook County)	5200	From 1/1 To 1/26	15.0		
Quartz Mountain (Lake County)	6300	From 12/28 To 1/27	1.44		
Red Hill (Hood River County)	4400	From 1/1 To 1/31			
Rock Springs (Grant County)	5100	From 12/27 To 1/25	0.98		
Schneider Meadows (Baker County)	5400	From 1/1 To 1/27	1.30		
Seven Mile (Klamath County)	5725	From 1/1 To 1/31	12.08		
Silver Creek (Lake County)	5720	From 9/29 To 2/1	16.08		
Silvies (Harney County)	6900	From 9/26 To 1/25	22.80		
Starr Ridge (Grant County)	5156	From 12/28 To 1/25	1.92		
Summit Lake (Klamath County)	5600	From 1/1 To 1/30	6.76		
Taylor Green (Baker County)	5740	From 10/20 To 1/27	22.16		
Three Creek Meadows (Deschutes County)	5650	From 1/1 To 1/27	2.00		
Tipton (Baker County)	5100	From 12/30 To 1/26	2.24		
Wolf Creek (Union County)	5720	From 9/29 To 1/26	17.88		

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

[illegible]



NUMBER	NAME
	Willow Creek
19D2P*	Arbuckle Mountain
18E1P	Anthony Lake

UPPER JOHN DAY WATERSHED
Upper John Day River

1902P *	Arbuckle Mountain
1861P *	Blue Mountain Springs
1813C	Blue Mountain Summit
2004	Butte Creek Summit
1993P *	Derr
18EB *	Gold Center
1999P	Izee Summit
1806P *	Lucky Strike
2001P	Marks Creek
2002 *	Ochocho Meadows
1911 *	Snow Mountain
1907 *	Starr Ridge
1890P *	Tinopolis

21E22 Bald Peter
21E6 Caldwell Ranch
22F3 Cascade Summit
21F22* Chemult Alt.
21E6* Hogg Pass
21F4 Hungry Flat
21F6* Irish-Taylor
21E25a Lionshead
21F10* New Crescent Lake
21E16 New Dutchman Flat #2
21E23 Racing Creek
22F14* Summit Lake
21F3 Tangent
21E15 Three Creeks Butte
21E13* Three Creeks Meadows
21E24a Whitewater Meadow

Walla Walla River				
18D16	Blue Mountain Camp	35	4N	37E 4300

LEGEND

19D2 SNOW COURSE ONLY
19D2A SNOW COURSE AND AERIAL MARKER
19D2a AERIAL MARKER ONLY
19D2P SNOW COURSE AND PRECIPITATION GAGE
19D2p PRECIPITATION GAGE ONLY
19D2* RADIO TELEMTRY

2106P Brooks Meadows
2101* Greenpoint Reservoir
2108* Mt. Hood Test Site
2104* Red Hill
21028 Switchback
2107P Tilly Jane

Hill Creek - Mosler C.

2106P Brooks Meadows

Lower Deschutes Riv

21D12* Clear Lake
21D22 Clear Lake Experimental
21D36 Beaver Creek No. 1
21D37 Beaver Creek No. 2

LOWER COLUMBIA WATERS

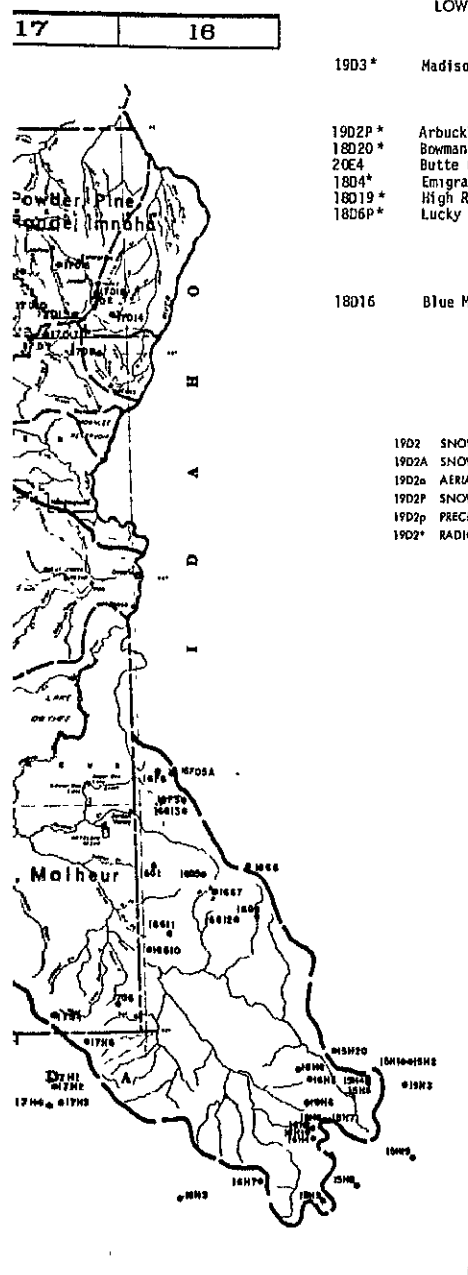
21D33*	Blazed Alder	Bull Run River
		Sandy River
21D35*	Mud Ridge	
21D34*	North Fork Reservoir	
21D8*	Mt. Hood Test Site	

WILLAMETTE WATERSHED

21013*	Clackamas Lake	
21012*	Clear Lake	
21022	Clear Lake Exp.	
21014p*	Peavine Ridge	14
21017	Timothy Lake	

Santiago River

22E8* Oaly Lake



Following Organizations (

in the Oregon Sr

STATE

Idaho Cooperative Snow Sur
Nevada Cooperative Snow Sur
Oregon State University
Oregon Department of Water
Soil and Water Conservation

COUNTY

Douglas County Water Resour
FEDERAL

Department of Agriculture
Cooperative Extension Ser
Forest Service
Soil Conservation Service
Department of Army
Corps of Engineers
Department of Commerce
NOAA, National Weather Se
Department of Energy
Lowville Power Adminis
Department of the Interior
Bureau of Land Management
Fish and Wildlife Service
Geological Survey
Bureau of Reclamation

PUBLIC UTILITIES

Pacific Power and Light Co
Portland General Electric
California-Pacific Nationa

MUNICIPALITIES

City of Baker
City of La Grande
City of Portland
City of The Dalles
City of Willa Watta

IRRIGATION DISTRICTS

Arnold Irrigation Distric
Associated Ditch Companie
Burnt River Irri
Central Oregon
East E

Lakeview Water Users, Inod
Medford Irrigation Distric
Middle Fork Irrigation Dis
North Board of Control - C
Ochoco Irrigation District
Rogue River Valley Irrigat
South Board of Control - C
Squaw Creek Irrigation Dis
Talent Irrigation District
Tumalo Project
Vale - Oregon Irrigation
Warm Springs Irrigation Dis
PRIVATE ORGANIZATIONS
The Crag Rate, Hood River,